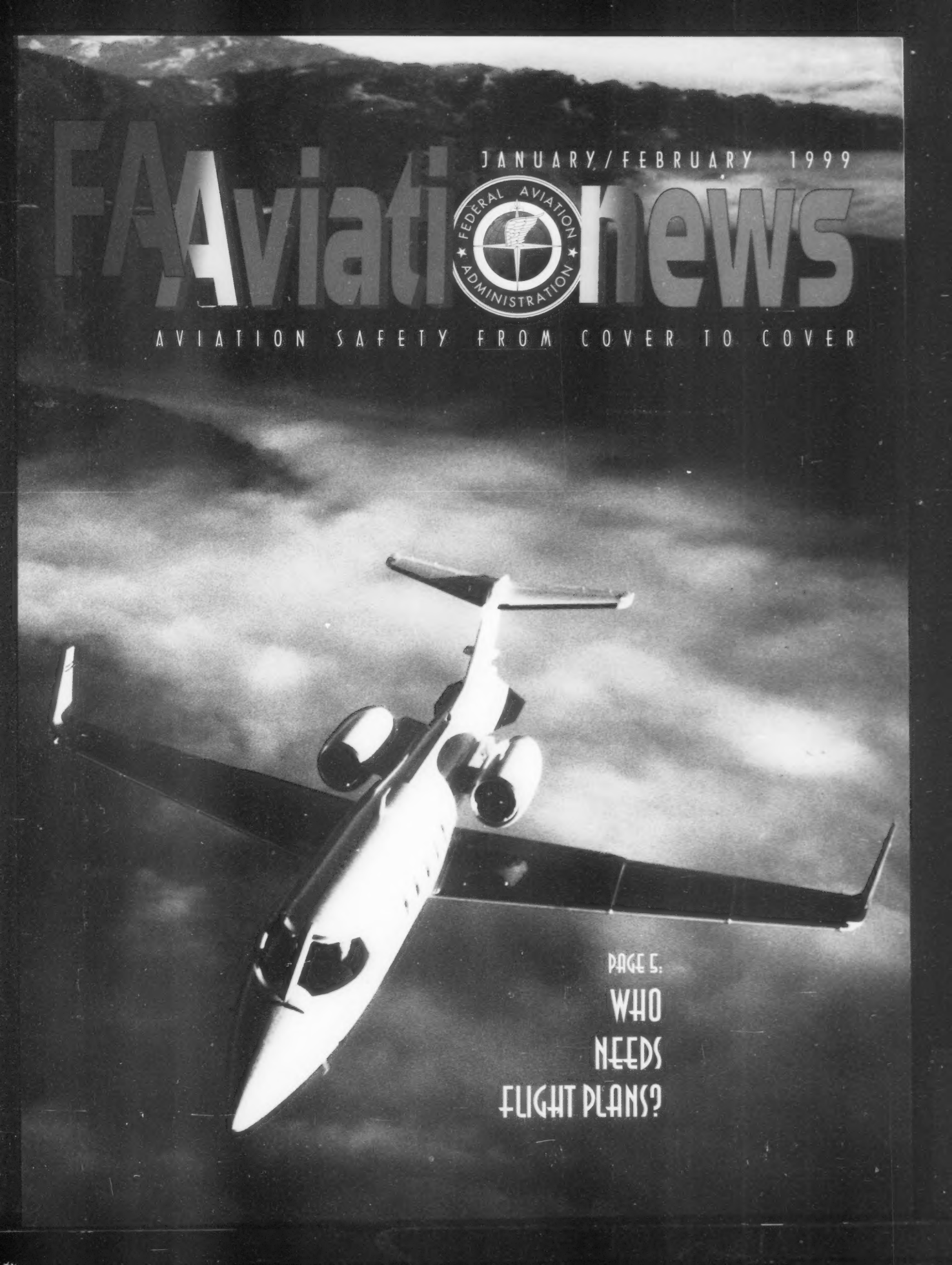
JANUARY/FEBRUARY 1999

FAA Aviation News

AVIATION SAFETY FROM COVER TO COVER



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WHO NEEDS FLIGHT PLANS?

U.S. Department
of Transportation

**Federal Aviation
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The Office of Management and Budget has approved the use of funds for the printing of FAA AVIATION NEWS.

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The Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-9371, sells FAA AVIATION NEWS on subscription. Use the self-mailer form in the center of this magazine to subscribe.

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FAA Aviation news

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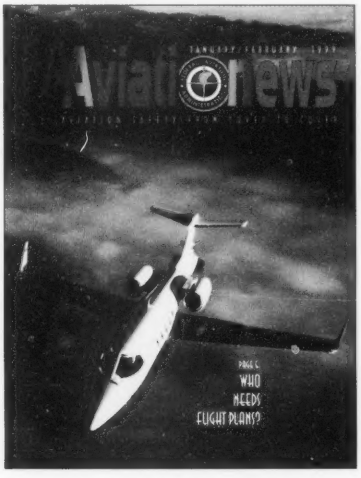


FRONT COVER: A LearJet 31A flies above the morning fog. (LearJet photo).
BACK COVER: Falcon Jet 2000. (Falcon photo)

SURFING THE AVIATION WEB

Part 2: www.fedworld.gov

by Phyllis Anne Duncan

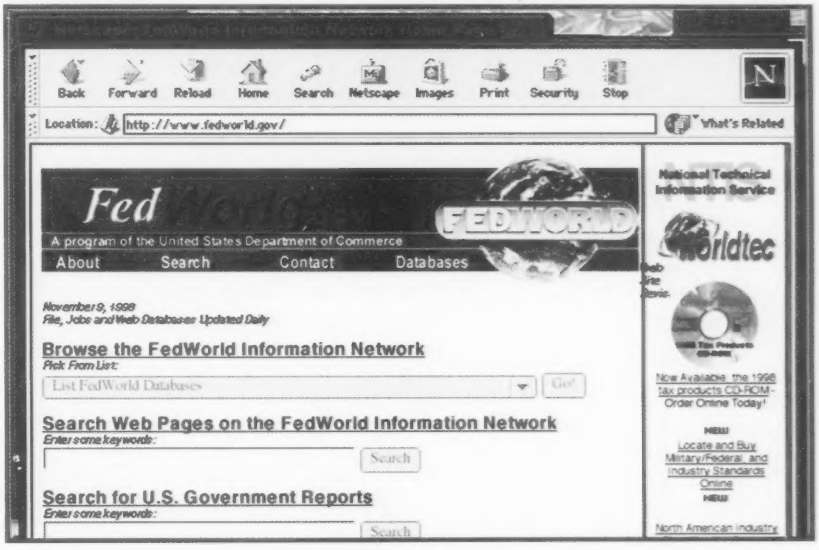
Probably the finest poet in the last few centuries, Robert Burns, said, more or less, that the best laid plans of mice and men, "aften gang awry." Just as I indicated, no sooner than the first installment of this series hit the streets with the admonition that things change rapidly on the World Wide Web, www.faa.gov underwent some changes. The biggest change is a new and improved search engine, so if you sat down at the computer with Part 1 in hand, just as I promised, things looked a bit different. Nevertheless, I hope you gave it a try and got a flavor for the amount of information available.

One thing I neglected to point out in the earlier article, if you're not a computer owner or if you're not online, you can access the Internet from most public libraries nowadays. So, this vast mountain of aviation information is well within your reach.

The second part of this series concerns aviation information available on FedWorld, <http://www.fedworld.gov> FedWorld was established in 1992 by the U.S. Department of Commerce's National Technical Information Service (NTIS). NTIS has long been the warehouse for any public government document you could ever dream of wanting, but the sheer volume of information available proved to be almost impossible to search by hand. So, NTIS developed electronically searchable databases through a gateway of more than 100 Government bulletin boards.

Now, the FedWorld Information Network consists of a search engine for the entire World Wide Web, 20 searchable databases, downloads through File Transfer Protocol (ftp), the bulletin board system, and subscriptions to its various publications. In addition, you can check U.S. Customs Traveler Information, review and download tax forms, and link to the U.S. Business Advisor.

FedWorld's own description of itself is accurate—it offers "simple, global access to government and business information in the most efficient and cost effective manner." It is an all round tool for finding a vast variety of information produced by government and business.



Probably the most useful feature of FedWorld is that its data files are updated daily, so if this becomes a regular site for you to visit, you will be assured of the timeliness of the information you find.

One of the significant portions of FedWorld is its FAA section. You can access this site in two principal ways. (Once again, if you're connected online, you might want to follow along on the computer as you read.) You can enter www.fedworld.gov in your browser and when you reach the FedWorld home page, you'll see that the very first selection is "Browse the FedWorld Information Network." If you click on the arrow to the right of a box with the instructions, "Pick from List," a listing will appear. Place your cursor on "FAA Information and Documents," and click on the word "Go!" to the right.

This takes you to an FAA File Search page, where you can search all the FAA libraries and directories or only search specific ones. There are five FAA file directories:

- FAA-ASI - Aircraft Service Information (Airworthiness Alerts and Service Difficulty Reports (SDR))
- FAA-ATT - Airman Training and Testing (Knowledge Test Guides, Practical Test Standards, and Question Banks)
- FAA-CAI - Airworthiness Directives and Continued Airworthiness Info (AD's, PMA, Amateur Kit List, Type Certificate Data Sheets, Suspected Parts, SAIB)
- FAA-OAI - Other Aviation Information (Some FAA Orders, Notices,

AC's Bulletins, and Notices of Seminars)

- FAA-RI - FAA Regulatory Information (FAR and Notices of Proposed Rulemaking (NPRM))

From the "FAA File Search" page you can access each FAA file directory in its entirety or you can compose a search. Given the volume of information contained in the FedWorld FAA Library, limiting your search to specific parameters is a good idea. On the "FAA File Search" page is a section called "Hints for Searching FAA Files," and that probably should be your starting point.

Airworthiness Directives (AD) are one of the most constantly changing databases the FAA has. AD's, which address unsafe conditions in aircraft, engines, propellers, or appliances, are literally issued daily, and keeping up with them is sometimes an aircraft owner's nightmare. From the "FAA File Search" page, let's select the Continued Airworthiness Information directory from the "Select the Directory" box then tab over to the box that allows you to enter key words.

If you want to search for a specific aircraft make and model, enter the make in the first box, leave the "and" in the second box, and enter the model in the third. In the next box you can limit your searches to five, 10, 25, 50, 100, 200 documents.

Let's enter "Cessna" and "172R" and limit the search to 10 possible documents. Now, click on "Start Search." On this day in late October, I got seven "hits." You'll notice that the AD number is blue, meaning it's a link to something. When you click on it, you get the text of the AD. You can read it on-line or print it out and read it off-line.

Another search might be for a list of sites where you can take an airman written (knowledge) test. Back at the "FAA File Search" page, select the directory, "Airman Training and Testing" then enter "Computer" and "Test" and limit your search to 10 documents. After you click on "Start Search" you'll find that your results are a file of the three approved organizations that administer written tests and their toll-free numbers so that you can call and find the testing site nearest you.

Let's try yet a third directory, FAA-OAI, "Other Aviation Information." Go back to the file search page and select that directory, then enter "Advisory" and "Circular," limiting your search to 50. Click on Start Search.

This site contains only the newer advisory circulars, but you can view or download a copy of the advisory circular checklist which does list them all and also provides information on ordering free or for-fee copies via "snail-mail" or e-mail.

Again, this is just an overview of what you can find through the FedWorld "FAA File Search" page. By reading the descriptions of the directories and doing a little exploring, you will find a significant amount of useful information. So, don't forget to bookmark the sites you think you might visit frequently.

The second way to access FedWorld is through <www.faa.gov>. From the FAA home page, click on "Regulation and Certification," then on "Flight Standards." Scroll down until you see "Federal Aviation Regulations (FAR)." The second bullet is "NPRMS (Proposed Airworthiness Directives) at FEDWORLD." This presents you with a listing of every AD currently in the system but with no search engine. You can scroll through the list then click on the AD number, but that way is really "trial and error" since the description of the AD is limited.

If you scroll further down the "Flight Standards" page, you'll see "Airworthiness Alerts (FEDWORLD)" under "General Aviation." Again, this takes you to a listing of airworthiness alerts but no search engine. Just as with the other link from the Flight Standards' page, you can click on an alert and view it or print it, but you could spent a lot of time and effort this way. Clearly, going directly to FedWorld and using its search engines will be the most efficient way to get to the information you're looking for.

Thankfully, the FedWorld aviation area hasn't been as tedious to explore as <www.faa.gov>, so we'll conclude Part 2 here. Part 3 in the next issue will explore another FAA aviation information site housed at our facility in Oklahoma City, OK.

FAA's Rotorcraft Directorate Home Page

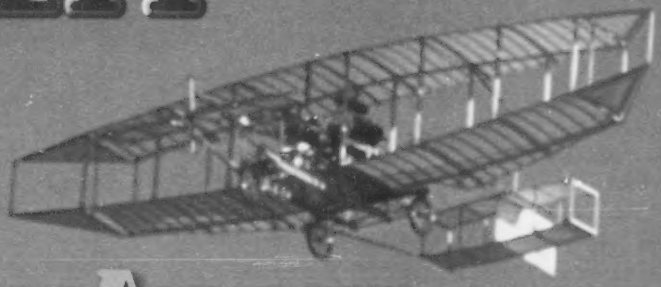
As we were going to press, Mark Schilling, Manager of FAA's Rotorcraft Standards Staff, told us of a new link to FAA's Rotorcraft Directorate home page.This web site — www.faa.gov/avr/air/asw/rotor.htm — contains general information concerning the certification of rotorcraft as well as links to other aviation pages.

Two advisory circular links were recently added to the Directorate's site—AC 27-1A, Certification of Normal Category Rotorcraft, and AC 29-2B, Certification of Transport Category Rotorcraft. Mr. Schilling indicates that because both of these AC's are so large the on-line files are split by paragraph numbers with separate links to each paragraph. They are posted in .pdf format and can be viewed by Adobe Acrobat Reader, printed out, or down-loaded.

Another new link from the Directorate's home page is emergency airworthiness directives affecting all categories of aircraft. Emergency AD's are normally posted within one business day after they are issued.

You can access either of the two links at the Directorate's web site URL above. If you have any questions, please contact Ms. Mary Ann Phillips at mary.ann.phillips@faa.gov .

SAFETY



OF AGING AIRCRAFT

This past October the FAA announced a multi-year effort to address the safety and reliability of systems on aging commercial aircraft. The newest effort is called the Aging Transport Non-Structural Systems Plan. The program plan has short- and long-term goals that build upon the success of the FAA's aging structures program, in place since the 1988 Aloha Airlines in-flight structural failure accident. The non-structural systems program also responds to recommendations from the 1997 Gore Commission report on aviation safety and security.

The specific recommendation concerning aging aircraft systems recommended that the FAA work with manufacturers and airlines to expand the existing aging aircraft program to include non-structural systems. Examples of non-structural systems are electrical wiring, connectors, wiring harnesses, and cables; fuel, hydraulic, and pneumatic lines; and electro-mechanical systems such as pumps, sensors, and actuators.

The Challenge of Safer Systems

The challenge to FAA and the industry is to assure adequate inspection and maintenance of both structural and non-structural components of an aircraft as long as it remains in commercial service. This may require new inspection, maintenance, and repair practices not currently being used. As airplanes age, the need to inspect, repair, or replace parts changes, increasing over time. Each aircraft model is unique enough that a method or practice for one aircraft may not be adequate for a different make and model. Furthermore, the current U.S. fleet is a mix of older and newer, highly computerized aircraft, and the aging of systems in each must be addressed separately.

In cooperation with the FAA the Air Transport Association (ATA) began a voluntary inspection program of non-structural systems among its members. Under the new program, teams of experts will study each specific aircraft model and develop model-specific actions for the model's aging systems.

As a short-term initiative, FAA will likely propose regulations by early this year (1999) which will require certain manufacturers to demonstrate that fuel system designs remain safe; i.e., that they will not provide an ignition source in the fuel tank. Manufacturers would have to conduct a design review to determine what, if any, additional maintenance practices would be required to maintain the integrity of the airplane's fuel tank system, including fuel tank wiring. Compliance with the regulations would not be required until the maintenance practices

are developed.

Long-term goals under the Aging Transport Non-Structural Systems Plan include:

- Enhancing airplane maintenance procedures to better address aging airplane systems
- Improving wiring installation drawings and instructions for continuing airworthiness
- Adding aging systems tasks to the aging airplane research program
- Improving reporting of accident/incident and maintenance actions involving wiring system components

The Aging Transport Non-Structural Systems Plan is based on a year's research effort that consisted of FAA inspector workshops and discussions with manufacturers on the non-structural systems issues. The research revealed that current maintenance practices are too general for these systems and that repair standards were needed to address some unique considerations as these systems "aged." As well, a team of experts from the FAA and Boeing inspected five aging aircraft with significant flight hours or age and which were undergoing heavy maintenance: three DC-10's, a DC-9, and a B-727. (Note: Boeing Company now owns McDonnell-Douglas, the original manufacturer of the DC-10 and DC-9.) This examination did not find any problems that would require taking aircraft out of service but did see a need to improve inspections and maintenance practices.

Using accident and incident databases, trends in aging systems were examined, and, by continuing with specific investigation of fuel tank wiring, the FAA research also showed that some wiring systems were difficult to inspect and that there was insufficient inspection criteria for corrosion of some flight control and hydraulic components.

Seven Steps to Safer Systems

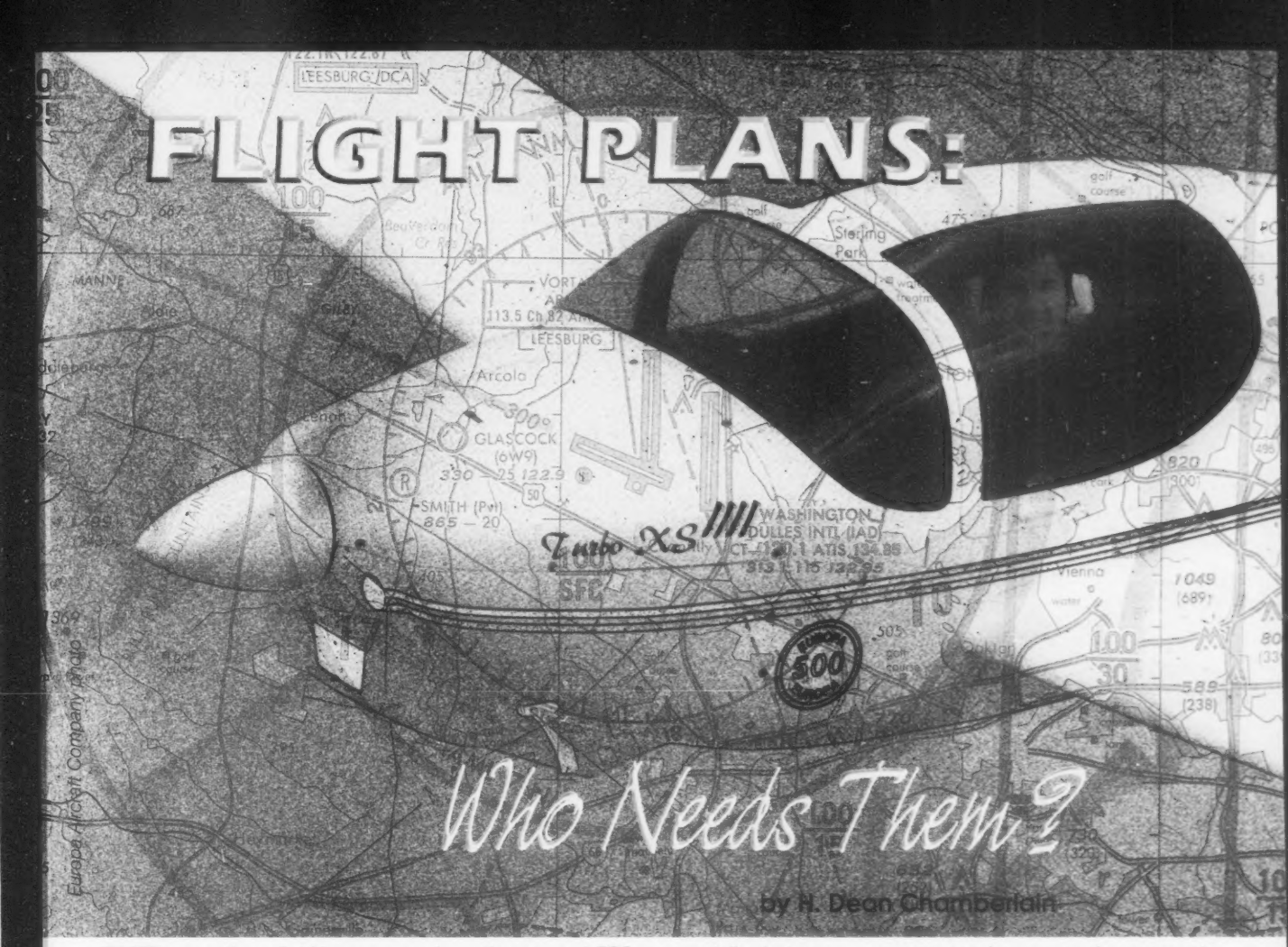
The FAA's Aging Transport Non-Structural Systems Plan combines regulatory actions, focused inspections, research, training, and advice from the aviation community. It includes seven initiatives to enhance the safety of non-structural aircraft components.

1. Establish an Aging Transport Systems Advisory Committee to coordinate the plan's initiatives and to:
   - Conduct fleet reviews
   - Coordinate efforts with other government agencies
   - Identify training needs for FAA engineers and inspectors
   - Hold annual workshops for maintenance personnel
2. An in-depth review of the aging aircraft fleet and safety recommendations for specific aircraft.
   - Specific aircraft will be targeted to assess the impact of age on systems.
   - A joint FAA/industry task force will evaluate service histories and bulletins for each aircraft model.
   - FAA will take regulatory actions as needed.
3. Enhancement of airplane maintenance practices so that they better address aging systems.
   - FAA will revise its guidance for inspectors to improve examination of wiring, identification of systems corrosion, avoidance of wiring contamination, identification of maintenance and inspection intervals, improvement of training programs, and revision of maintenance guidance.
   - The ATA, working with the FAA and manufacturers, recently produced a wiring practices document (Spec 117) that is recommended for use by all operators who do not now have those practices in their safety programs.
4. Add aging systems tasks to the FAA research program.
   - Develop ways to better determine the current condition of aging wiring components.
   - Determine if the estimated life for the wiring is appropriate and establish new criteria as needed.
   - Develop new wiring inspection technologies that do not require disassembly of components.
   - Examine how aging affects electromagnetic and lightning protection systems.
5. Improve reporting of accident, incidents, and maintenance actions involving aircraft wiring systems.
   - Develop ATA codes that better identify wiring system component failures and maintenance actions.
   - Improve the reporting format for accidents, incidents, and maintenance actions in order to improve analysis of aging systems.
6. Evaluate the need for additional maintenance of transport airplane fuel system wiring and address any unsafe conditions.
   - The FAA will review service problems in the U.S. fleet to identify any unsafe conditions in the fuel system, including the fuel system wiring, and will take corrective action as needed.
   - The FAA will propose a Special Federal Aviation Regulation (SFAR) to require certain aircraft manufacturers to show that fuel system designs preclude ignition sources.
   - Manufacturers would have to conduct a design review to determine if any additional maintenance practices are needed to maintain fuel tank safety, and air carriers would have to implement those practices.
7. Improve wiring installation drawings and instructions for continuing airworthiness.
   - Industry will define "best practices" for wiring modifications.
   - Develop training aids for wiring system installation, and a job aid for evaluating the adequacy of installation drawings and airworthiness instructions.

Conclusion

The current national FAA aging aircraft program has provided the development of inspection procedures based on regulations and guidance that ensure the structural airworthiness of aging aircraft. The new non-structural program builds on that proactive approach by defining requirements for maintaining aircraft through improved inspections and repair practices, thus ensuring that our aging fleet of aircraft remains safe.

Now, if medical science could do just as well for our aging bodies and systems...



FLIGHT PLANS:

Who Needs Them?

by H. Dean Chamberlain

Recently a pilot I know was admonished for not closing his VFR flight plan. According to the pilot, he regretted the incident, but he was very unhappy about the manner and tone the Flight Service Station (FSS) people used to "counsel" him. As he said, "I made a mistake. I should have closed it. End of story. But the FSS wouldn't let it end. The tower asked me to call the FSS, and there was a message left at the fixed-based operator for me to call the FSS. I called and talked to a woman at the FSS. She told me I hadn't closed my flight plan and to not let that happen again."

Then he said he went flying again for another hour. "When I returned, there was a second message for me to call the FSS. The second time I called, a man talked at me for 30 minutes because he thought the lady had not handled it well enough. I felt fear, anxiety, and anger. I felt the system had failed me. I didn't appreciate how the second FSS person talked at me about the incident. I don't think I needed to be talked at again for another 30 minutes."

Are we talking about a new student pilot on his first cross-country flight? No, the pilot was a very experienced airline transport rated pilot. So, experienced, in fact, he might have forgotten to close his VFR flight plan because he was accostumed to flying IFR where the airport control tower or controlling facility closes the IFR flight plan when the aircraft lands.

It is important to remember pilots have to open and close VFR flight plans. End of sermon.

WAYS TO AVOID A "SENIOR" MOMENT

Recently a television program discussed the concerns of aging baby boomers worrying about forgetting things. One person I work with calls such events "a senior moment." Since anyone can have a senior moment, based upon the flight plan story and the television story, this seems like a good time to discuss how other pilots have said they avoid such moments and remember to close their VFR flight plans.

For example, according to several magazine articles over the years that I have read, some pilots said they put their wrist watch on their "other" wrist so that after a flight when they are checking the time and can't "find" their watch, they will stop and hopefully remember why they put it on the "wrong" arm. (Now if they will only remember it has something to do with closing a flight plan.)

Other ideas include wearing a rubber band around a wrist as a reminder. (Pilots just have to remember to remove the rubber band before their hand falls off from lack of circulation.) Just remember to use a size of rubber band guaranteed not

to cause your hand to fall off before the end of the flight. Now if someone would just make a one-, two-, or three-hour rubber band.

Other people have said they leave notes in their cars, on their clothes, in their pockets, or attached to their car keys. One article said one pilot used spring loaded wooden clothes pins to attach his notes. Another idea is to put a note on your car's rear view mirror.

(It is too bad we can't talk the FAA's Aviation Safety Program into making a safety-reminder tag somewhat like the handicapped parking permits that fit around a car's rearview mirror or an inexpensive sun shade with a reminder printed on it for pilots to close their flight plans.)

Airports also try to help pilots remember to close flight plans by installing signs near taxiways, hangars, and airport highway exits as reminders. Many fixed-based operators also have signs and posters reminding pilots to close their flight plans.

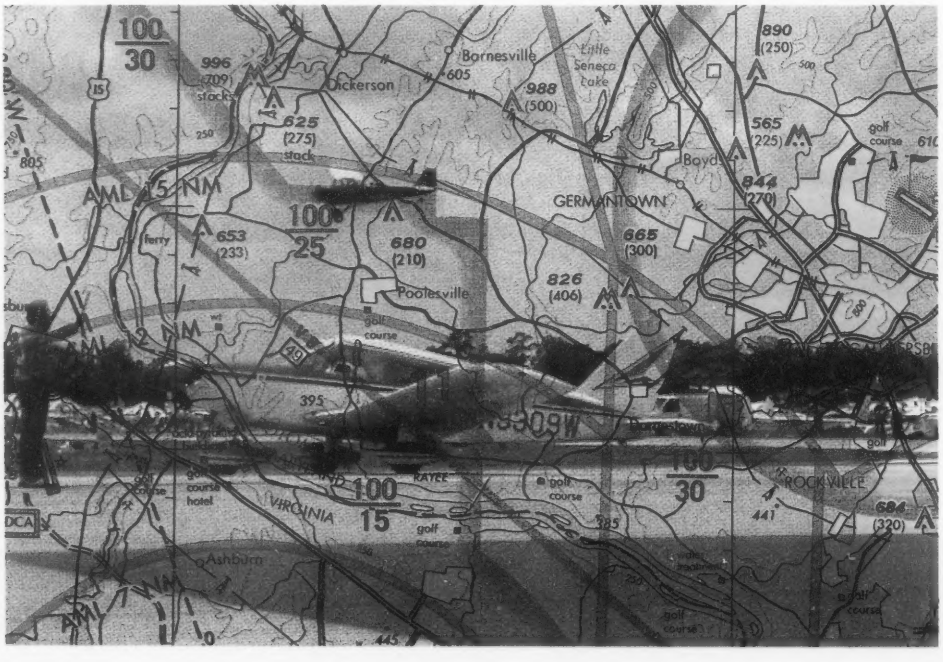
WHY IS IT IMPORTANT TO CLOSE A VFR FLIGHT PLAN

So why all of this emphasis on pilots closing their flight plans? The reason is if a pilot files a VFR flight plan, opens it (remember a VFR flight plan must be opened by the pilot with the appropriate air traffic facility), and fails to close it, air traffic control starts to look for the aircraft 30 minutes after the estimated time of arrival filed in the flight plan. At first, air traffic control (ATC) uses the telephone to try and locate the aircraft. The question is whether or not the aircraft landed safely and the pilot failed to properly close the flight plan or did the aircraft crash en route. The first step is a check at the destination airport. Did the aircraft arrive safely? Is it sitting on the ramp or in a hangar at the destination airport? If not, the pilot is contacted using the information listed on the flight plan. If the pilot is not located, the telephone check is widened to cover airports from the originating airport to those along the intended route. Finally, ATC sends out a message informing the aviation community about the "missing" aircraft. The final step is notifying search and rescue that help is needed.

SEARCH AND RESCUE

Of course if there is an emergency locator transmitter (ELT) going off along the missing aircraft's ground track, ATC has additional reason to suspect the aircraft has crashed. One hour and 30 minutes after the aircraft is overdue, a decision is made to notify search and rescue forces that there is a "missing" aircraft. At this point, other people become at risk as they initiate search efforts. Whether they are driving down the highway and are involved in an accident or they are involved in a search-related aircraft incident or accident, search and rescue personnel have been injured themselves responding to a missing aircraft search.

So what does all this have to do with *FAA Aviation News* and safety? Several things. First, as a safety magazine, we don't want to ever see anyone have an accident. But we all know accidents happen. We especially don't want to see rescue personnel injured while searching for a "missing" aircraft that is safely tied down on a ramp or stored in a hangar somewhere. We think all pilots feel the same way. Not only do pilots not want to be involved in a crash, we think they don't want to cause other people to become injured while searching for a "missing" pilot who simply had a senior moment and forgot to close a VFR flight plan.



No! The answer is not for every VFR pilot to never again file a VFR flight plan. This defeats the purpose and benefits a flight plan provides VFR pilots. Remember, IFR pilots must file an IFR flight plan with ATC for IFR flight in controlled airspace. Filing a VFR flight plan is a voluntary act, but one that can help save your life in the event of an en route accident.

FAA CONCERN

FAA's concern is that not every VFR pilot who should file a flight plan, does in fact file one. Are we saying every VFR pilot should file a VFR flight plan? No, we are not. Not every pilot needs to file a

flight plan. Obviously a pilot staying in the pattern to do touch and goes at an airport with an operating control tower doesn't need to file a flight plan. Then, since the only purpose of a VFR flight plan is to alert search and rescue in case an aircraft fails to complete its flight, there are many routine flights where local flight procedures may in fact be better than filing a VFR flight plan. For example, a student pilot going out to a designated training area for a one hour flight is "missed" much faster by a flight school than say a pilot filing a one hour cross-country. Like we said, FAA normally waits at least 30 minutes past the estimated time of arrival for the pilot to check in just in case the pilot's flight planning was off or a headwind was stronger than expected, etc. The student is missed at the end of that first hour. Note this example only works if there is a full-time staff tracking students or another student is waiting for the aircraft for the next flight. If the student is the last flight of the day, and the flight gets "lost" in the FBO's staff's rush to get home, the student's risk goes up. The student may or may not be missed until the next day.

It is also important that the student fly the route expected to the designated training area. The two most important elements in any missing aircraft search is a fast alert and an accurate last known position. Of course, in the event of an injury accident the best place to crash would be in front of a hospital emergency room. Preferably one that allows its staff to help people outside its doors. But that is another story.

WHEN IS A FLIGHT PLAN NEEDED ?

A flight plan becomes an important safety benefit for any pilot on a flight where there is no one expecting that flight. There have been many examples of accidents where no one missed the pilot for days. In one case, the pilot took off early in the morning before day break. No one was meeting the pilot at the end of the flight. The pilot crashed within a mile or so off the end of the departure runway in a heavily wooded area. No one missed the pilot for several days. Then since no one knew the proposed route of flight and no ELT was transmitting, a broad area search had to be made which required more time and resources. Finally, days after the flight's departure, the aircraft was found. How could this delay been prevented? A properly filed VFR flight plan would have alerted ATC within minutes if not hours of the missing aircraft. A filed route of flight would have enabled searchers to concentrate their efforts along the proposed route of flight rather than having to do a time consuming broad area search. The results would have been a much faster search and rescue effort.

WHAT CAN YOU DO TO HELP YOURSELF ?

First, file and activate a VFR flight plan whenever you are at risk of not being missed. Remember, the FAA is less likely to have a "senior" moment than a spouse going golfing or a friend working in the hangar next to yours. The second important factor is to fly the route filed in your flight plan. This helps searchers trace your path. If you change your route, you should notify the nearest FSS or air traffic control facility. If your arrival time changes, you should notify the nearest FSS or air traffic control facility. Throughout your flight, you should give accurate and timely position reports. Position reports narrow the specific area search and rescue forces have to search trying to find you. If you are going to land en route during your flight, you might want to file separate flight plans to your first destination and final destination rather than just one flight plan with a long en route time. The reason is the FAA waits until after your filed estimated time of arrival to start its preliminary search efforts. The problem is if you crash within the first 30 minutes of a four hour flight, you won't be missed until after four hours and 30 minutes. But if you had filed to your first airport of landing, you would be missed sooner and search efforts would start sooner. Finally, it is important to remember to open and close the flight plan for each leg of the flight.

WINTER AND FLIGHT PLANS

Because it is now winter, flight plans and the safety edge they give pilots become even more important. Because winter means fewer hours of daylight, more pilots will be flying at night. All of which means there are more accidents at night. Emergency night-time landings are more risky than their day counterparts. Like the old joke, when you lose your only engine at night and decide to turn on your landing light while descending through 1,000 feet AGL, if you don't like what you see, turn off your light. All joking aside, any night landing has a higher level of risk than one made during the daytime. Now, add some ice and blowing snow to the equation and you start adding to the risk of having a night-time accident. This may be especially true at the smaller general aviation airports in the country's snowbelt where they may lack all of the snow removal equipment larger airports may have.

Then, in the event of any winter accident, but, especially at night, cold becomes a survival factor. As we remind everyone each year, hypothermia is one of winter's deadliest killers. Because of the increase in survival risk factors during the winter, it becomes even more important for pilots to take advantage of the safety and survival benefits of filing a flight plan. Equally important is for all pilots to close their VFR flight plans because the increased flight risks also apply to the safety of those who might have to come rescue you from your warm, comfortable motel or home after you failed to close your VFR flight plan.

A final thought. Just remember in your desire to quickly secure your aircraft and get home to your warm house after a long cold flight, you need to take that extra moment to close your flight plan. Let's all strive to avoid having a "senior moment" while aviating. Everyone will be glad you did.

I F(OLLOW) R(OADS)

I wish I had a nickel for every time I've heard a local pilot say, "I don't need an instrument rating. I never fly unless it's VFR (Visual Flight Rules)." Okay, so you try to stay VFR. But how many of us have set out to fly in marginal weather only to find ourselves accidentally in instrument meteorological conditions (IMC) in which Instrument Flight Rules (IFR) apply? Reflect a little and I'll bet that you are hard pressed to deny that this has happened to you.

There you are, flying along, happy as a clam in muck, when the ceiling that has been getting lower and thicker suddenly lets go with a snow shower or rain. Visibility dwindles to almost nothing, and you tell yourself that you'll just fly straight ahead for a few seconds and be out of the shower. Fat chance. Murphy's Law is alive and well.

When was the last time you considered the real meaning of zero-zero? How long has it been since you practiced your instrument approaches with a safety pilot? How long has it been since you practiced flight by reference to instruments with a flight instructor? You answer, "A long time," or "When I got my pilot certificate some years ago," or "Just enough to get my private pilot certificate." I've heard them all.

As a Private Pilot applicant you must be able to fly sufficiently by reference to attitude instruments so as to exit adverse weather. Does the Practical Test Standards, the examiner's guide for the pilot practical test, give a number of flight hours necessary? Is a given number of hours of flight by reference to attitude instruments required? The answer is "No" to both.

Say that your flight instructor for the private certificate gave you three hours of instruction by reference to instruments before you took your check ride. That was five or 10 years ago. During your last Flight Review you did everything VFR. Now you find yourself smack dab in the throes of a storm. You have no Instrument rating in your pocket, and it's been a long time since you experienced the feel of IFR flight. You are in for a heart-stopping experience indeed!

When weather goes to heck in a hand basket and you find yourself in instrument conditions, it is comforting to have all the instruments you can have and the knowledge to use them. One of the major causes of accidents in the U.S. is inadvertent flight from VFR into IFR weather. Most of those accidents involve VFR-only pilots who are flying aircraft that may not be equipped for IFR flight operations. Even though some aircraft have all the instruments required for IFR flight, some aircraft owners may have been lax in keeping current all the appropriate pitot static checks, etc.

The rationale in some locations is that a pilot never flies a light aircraft unless the weather is VFR. That may be true to an extent.

Most flights start out VFR, and most successfully end VFR. But the amount of time and money spent getting an Instrument certificate will be worth it.

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The author is the Safety Program Manager at FAA Juneau (AK) Flight Standards District Office.

INCIDENTALLY

A Turn of the Phrase, So to Speak

Verbal communication in the aviation world is made up of concise phrases containing "key" words. The "key" words contained in a message not only help the speaker get to the point quickly, but they also alert the listener as to what command or type of information is coming before it is actually said. For example, if a controller said to you "Six thousand at CHINC, direct BOSCO November six one five five lima point out," notice that you had to listen to the entire sentence before you became aware of what was being asked of you. If the controller had started the sentence with the "key" word in the correct sequence, you would have known exactly what was wanted of you at the start, as well as what type and pattern of information would follow: "Point out, at CHINC, November six one five five lima, direct BOSCO at 6,000."

Any tendency to shortcut the process by eliminating "key" words, or lapsing into conversational (nonstandard) phraseology, essentially catches the listener off guard and puts that person into a catch-up mode. People can function in a catch-up mode; however, the chance of an error or misunderstanding is more likely to occur at that time.

Think about what the recipient (controller or pilot) may be doing at the time a communication is directed to him or her. Neither pilots nor controllers are constantly awaiting a communication, with pen/pencil in hand, ready to copy the instant you call. The pilot may be busy providing a passenger briefing, logging engine performance figures, trying to solve a mechanical problem, entering that last routing change into the flight management computer, changing VOR headings or frequencies, studying a chart or manual, or even eating a donut and sipping hot coffee; in other words, distracted. Your communications are important and if you use the right combination of words, you can get the attention of the other person and at the same time prime him or her to receive the correct message without your having to repeat it. Accurate receipt of messages the first time saves time and aggravation.

When the ACID (aircraft identification) is used, you get the right pilot's attention. When the "key" word or phrase is stated, you get that pilot set and ready for what's coming next. Will it work if you say, "Delta 222 fly two zero zero?" Probably, but the listener had to fill in the blanks and in effect translate your message. There is room for misinterpretation because the listener won't know exactly what it is you want, even after the entire sentence is completed, and will have to guess. If the guess is correct, you will get a heading change. The word "fly" by itself is nonspecific because it could signal that route, or heading, information will follow. However, if the crew were primed for or thinking about altitude, they could guess wrong (even though air traffic controllers know that the term "fly" should never be used in conjunction with an altitude clearance). But, if you stated, "Delta 222 turn right heading two zero zero," the pilot immediately knows exactly what you want and will be waiting for a compass direction expressed in three numerals. The key words were "turn" and "heading" and helped get the pilot ready to receive the correct message.

Successful communication in the aviation environment is the use of the "key" action words found in standard phraseology. These "key" words prime the listener to expect a certain action or set of instructions to follow. The most common "key" words are listed on page 10. Look carefully at what purpose they fill and what they signify to the recipient.

You certainly can think of other "key" words or phrases which will alert the listener to what kind of message is coming up. The point is that when "key" words are used consistently, the listener is able to get into the appropriate frame of mind to receive the message accurately. If you beat around the bush, when you communicate with a controller or pilot, you make it harder for him or her to understand your message.

Pilots will attempt to be more attentive generally when they are close to the airport in an attempt to get the traffic picture and figure out to some extent where they will fit into it. Contrary to popular belief, a pilot will not, nor can he or she, listen attentively to each transmission which is made by the controller. This is why it is important to use phraseology which can break through and get the receiver's attention centered quickly on what you want them to do.

Think about it.

Keep it simple, keep it precise. Use standard "key" phrases and see if it doesn't make your job easier.

This article originally appeared in the Spring 1998, AIR TRAFFIC BULLETIN.

"Keys" to Successful Communication

KEY WORD	COMMON INTERPRETATION	EXPECTED PATTERN OR ACTION
"Contact"	Frequency coming up	Three numbers separated by spoken word, "point" followed by one additional number
"Squawk"	New transponder code or action associated with this piece of equipment	Four individually stated numbers or action associated with this piece of equipment
"Traffic"	Look outside, direction & position of traffic coming up next	Direction, range, flightpath, type, altitude
"Climb and Maintain"	Altitude change upward	Log altitude, power change required, minimum
"Descendand Maintain"	Altitude change downward	Log altitude, power change required, minimum
"Cross"	Some kind of restriction coming up. Usually an altitude restriction coming expressed in miles or fix name followed by up to two altitude assignments	Number of miles or fix name, at (altitude) maintain (altitude)
"Company Prefix"	If "my" company, will listen for trip number; "key" word indicating type message or instruction, to follow	Air carrier pilot will ignore if not "my" company or if general aviation call sign/type. General aviation pilot will ignore.
"Type Prefix"	If "my" type aircraft, will listen for registration numbers/letters; if "November," will listen for registration numbers/letters; "key" word indicating type message or instruction, to follow	Air carrier pilot will ignore. General aviation pilot will ignore if not "my" type aircraft. If "my" type aircraft, will listen for registration numbers/letters.
"Cleared"	Routing coming up; fixes, airways, heading, etc.	Name of place and how to get there
"Turn"	Direction change and instructions coming up	Expect direction of turn (left/right) and heading instructions
"Heading"	Compass heading in three digits coming	Three numbers; example, heading zero three zero
"Reduce"/"Increase" Speed	Slow down, go faster	Two to three separate digits ending with word, "knots" or Mach number stated as "point" two separate digits, e.g. Point eight zero Mach
"Inbound"	Arrival information coming	Aircraft ID, position
"Request"	Non-standard request coming, perhaps something weird	Specifics of request
"Altimeter"	Barometric pressure reading coming to be entered into altimeter	Four individually stated numerals
"Clearance"	Get ready to copy flight plan information	FRAFS [Fix/clearance limit, Routing, Altitude(s), departure Frequency (if appropriate), transponder code (Squawk)]
"Wind"	Wind velocity information	Magnetic compass direction expressed in three numbers with velocity to follow

A MOMENT IN YOUR LIFE

by Patricia Mattison

Have you ever been in a situation where you need to talk to someone, but no matter how hard to try you are unable to make contact? This can--and does--lead to frustration. Eventually you may stop trying. What about a pilot who is calling for help from the airplane but is having difficulties contacting anyone? The pilot needs help at that moment! Consider the following stories. They are true and can happen to any pilot.

A pilot was asked to transport an aircraft across the United States and the Atlantic Ocean to a buyer in Italy. The pilot, who was not familiar with extended over-water flight, opted to hire another pilot with over-water experience to accompany him. Weather was not cooperating, so the two pilots waited for several days. Finally the weather improved and they departed for the trip across the North Atlantic.

It was nightfall when they left on a cold January evening from St. Johns, Newfoundland. Before starting the flight they had prepared for the worst by donning immersion suits to the waist and equipping themselves with a life raft and survival gear. As they flew into the night they noticed that the clouds became a solid floor beneath them. Their pre-planning paid off, because three hours out of St. Johns the engine came to a sudden, complete halt. Oil began to spew everywhere. They called "Mayday, Mayday" on the emergency radio frequency to no avail. What would they do now? No one heard their cries for help.

They knew their position because the GPS told them exactly where they were. If only someone would answer them, they could hope to be rescued. Below the sea rose to healthy 13-foot swells. The wind was blowing a gale, and the chill factor was well below zero. The small aircraft descended ever lower toward the black clouds below.

Penetrating the cloud deck the pilot continued to call "Mayday" and give position reports. Just before the aircraft hit the water, where it would sink to the endless depths of the Atlantic, their cries were heard by a passing airliner and passed on to the Canadian Coast Guard. If the "Mayday" had not been heard the two pilots would have perished. They were rescued by a fishing trawler almost eight hours after their ordeal began.

In our next story, a pilot found that, despite weather reports, the aircraft--being flown on a pleasure flight--was suddenly engulfed in a snow storm. The aircraft was collecting ice at an unimaginable rate, and the pilot was unable to maintain altitude. A flight plan had not been filed, but not for want of trying. Lines to the nearest flight service were either busy or out of service. The pilot had not told anyone what the expected route would be. This pilot also called "Mayday" on 121.5 MHz but was too low to be picked up by Air Traffic Control.

Recalling what a flight instructor had said about communications at low altitude, the pilot transmitted through the nearest VOR to a Flight Service Station (FSS) and received a most welcome reply. The pilot was directed to a nearby airport where the aircraft landed safely.

What are the alternatives to the normal frequencies pilots use such as Remote Communications Outlets (RCO's) for FSS, local Unicom, and tower? Low altitudes can make communications impossible due to the loss of line of sight of the facility. Alternate lines of communication can be made through an aircraft in flight to a local Air Route Traffic Control Center (ARTCC) frequency. The U.S. Coast Guard monitors marine VHF band 16. VHF-FM bands are used by State and Federal agencies, as well as natural resource groups. The latest technology in cellular phones makes this a valuable asset; however, success depends on your position. In addition, some Emergency Locator Transmitters (ELT's) transmit aircraft call signs.

These are some alternatives that you can investigate. Local frequencies should be researched and noted, depending on the areas you fly.

If you should have a problem or simply need to land to wait out weather, there is someone out there who can relay a message--and perhaps even save your life.

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The author is the Safety Program Manager at FAA Juneau (AK) Flight Standards District Office.

NASA WEB SITE HIGHLIGHTS WRIGHT FLYER REPLICA SAFETY STUDIES

by John Bluck, NASA Ames Research Center

While NASA engineers study how wind flows around a full-scale model of the 1903 Wright Flyer to ensure that a safe flying replica will be built, hundreds of classrooms will get NASA wind tunnel test data about the model in almost real time via the Internet at http://quest.arc.nasa.gov/aero/wright.

Called Wright Flyer Online, the NASA educational web site permits students to conduct real-time science. In March 1999, the model of the 1903 aircraft, the first to make a successful powered and piloted flight, is scheduled for tests in the world's largest wind tunnel complex at NASA's Ames Research Center, Moffett Field, CA. They are to be conducted to ensure that a replica to be built by a non-profit institute can safely be flown by a pilot on Dec. 17, 2003, the hundredth anniversary of Orville and Wilbur Wright's first flight.

"The Wright Brothers did not have access to such a modern, computerized wind tunnel," said Susan Lee, Aero Design Team Online project manager at Ames. "So, through these wind tunnel tests, engineers will document the flight characteristics of the first real airplane."

To increase the still-to-be-built replica's reliability, engineers want to improve the Wright Flyer's design. Project engineers will study the test model's stability, control and handling at speeds up to 30 mph in Ames' 40-foot-by-80-foot wind tunnel. Test results will be used to compile a historically accurate aerodynamic database of the Wright Flyer.

"To prepare students for the wind tunnel tests in March, we already have many online educational activities including chat sessions with Ames engineers, pictures of the airplane model and an email question-answer service," Lee said. "One of our purposes is to give students opportunities to learn the history of the Wright Brothers who pioneered early flight; we also want to teach young people how engineers study airplane flight to improve it."

A teachers' guide for grades five through 12 is available to educators and the general public on the web site. "There will be a couple of collaborative projects where classroom students will work with other classrooms through the Internet. One project, for example, is to improve the design of a glider," Lee said.

The objective of the projects is to enrich and expand student understanding of the scientific and engineering principles behind NASA work and to encourage classrooms across the globe to communicate. Each project has clear goals, and students can interact with NASA experts, project staff, and other classrooms.

"Games, puzzles and contests are also a part of the online web site," said Ames multimedia education specialist Bonnie Samuelson. "The site is fun, and students learn about aeronautics. "An important focus of what we are doing in this project is the use of technology in education," she added. "This focus is one of the primary educational goals of Vice President Gore."

"President Clinton and I have launched an initiative to make technology a powerful tool for teaching and learning in our nation's schools," Gore wrote in a recent memorandum. In the memo, he also noted that students will be able to follow wind tunnel tests of the Wright Brothers' full-scale airplane model that are to be conducted at NASA Ames.

The test model was built by a team of volunteers from the Los Angeles section of the American Institute of Aeronautics and Astronautics (AIAA), using precise plans from the original airplane provided by the Smithsonian Institution. The model features a 40-foot-4-inch wingspan reinforced with piano wire, cotton wing coverings, spruce propellers and a double rudder. In the wind tunnel, the model will be powered by a NASA electric motor.

"I can't think of anything as exciting as using modern technology to test a replica of the biplane that Orville and Wilbur Wright flew for the first time ever in 1903 at Kitty Hawk," said Pete Zell, Ames' wind tunnel test manager. "NASA is here as a resource for the public and to inspire young people. This project seeks to educate and inspire youth; it's much more than dollars and cents."

Using the resulting wind tunnel test data, the second Wright Flyer, a replica, will be built by AIAA volunteers and flown on Dec. 17, 2003, at Kitty Hawk, NC. During the recreation of the Wright Brothers' first flight, the replica will fly low and travel at only 30 mph, the same speed flown by the Wright Brothers, whose flight only traveled 120 feet during its 12 seconds in the air.

The online educational project continues through the end of the 1998-99 school year. The project is one in a suite of online offerings from NASA's Quest Project at URL http://quest.arc.nasa.gov.

Dangers of Viagra Use in Pilots

AME's should become familiar with the detrimental side-effects of sildenafil

by Donato J. Borrillo, MD, JD

Viagra (sildenafil citrate) has recently received the Food and Drug Administration (FDA) seal of approval for the treatment of male erectile dysfunction. The recent popularity of this medication, and its availability to the general aviation pilot, warrants a closer look by the aviation medical examiner (AME). With the pilot in mind, the AME should become familiar with certain detrimental side effects of sildenafil.

To date, no written guidelines exist for the use of sildenafil and flying. Pursuant to the Guidelines for Aviation Medical Examiners, all medication use must be reported. However, the "as needed" use of sildenafil may result in confusion for pilots. It is certainly conceivable, given "as needed" dosing and stigma, that pilots would not report sildenafil use. For the reasons outlined below, it is the author's view that a minimum of six hours should pass from "as needed" dosing and flying. Furthermore, the continued (daily) use of Sildenafil is incompatible with safe flight.

The AME should understand the mechanism of action for sildenafil. During sexual stimulation, nitric oxide (NO) is released into the corpus cavernosum. Nitric oxide activates the enzyme guanylate cyclase, thereby increasing the levels of cyclic guanosine monophosphate (cGMP). The cGMP produces smooth muscle relaxation and the inflow of blood into the corpus cavernosum. Sildenafil enhances the effect of NO by inhibiting phosphodiesterase Type 5 (PDE5), which is responsible for degradation of cGMP in the corpus cavernosum.

When sexual stimulation releases NO, the inhibition of PDE5 by sildenafil increases levels of cGMP in the corpus cavernosum. This results in smooth muscle relaxation, inflow of blood to the corpus cavernosum, and sustained penile erection. Sildenafil at recommended doses has no effect in the absence of sexual stimulation, and has no direct relaxant effect on isolated human corpus cavernosum.

Given the above mechanism of action, potential side effects include:

- changes in color vision
- potentiation of nitrate medication
- cockpit distraction

Sildenafil inhibits phosphodiesterase Type 5 (PDE5), however, it also has an affinity and effect on phosphodiesterase Type 6 (PDE6). Phosphodiesterase Type 6 is a retinal enzyme involved in phototransduction. The inhibition of PDE6 results in a mild transient dose-related impairment of blue-green color discrimination. Although only three percent of all patients report visual disturbances, this blue-green impairment could be dangerous during Instrument Meteorological Conditions or night flying. The correct identification by the pilot of blue [taxiway] and green [tower/runway threshold] is necessary for safe flight. In addition, the use of color video terminal displays has increased in aviation and may present a problem in the color deficient pilot. [The continued debate regarding "color blindness" and the aviator is beyond the scope of this paper.]

The AME should also be aware of sildenafil use in the "mile high club." [An activity not condoned by the FAA, but known to occur.] Sildenafil use by a pilot with cardiac disease during sexual intercourse at 5,000 feet, could be deadly. Cardiac disease and nitrate use are risk factors for sudden death during sexual intercourse, not to mention being medically disqualifying. The hypotensive effect of nitrate (Isordil, SLNTG, etc.) is potentiated [A specific cause and effect has not been shown regarding sudden death.] by sildenafil, consistent with its effect on the NO/cGMP pathway. Recent deaths related to nitrates and sildenafil have made the combination an FDA contraindication.

Finally, the initial dose of sildenafil is 50 mg by mouth one hour prior to sexual activity. This dose can be increased to 100 mg, and the drug is rapidly absorbed within 30 to 120 minutes (median 60 minutes). Priapism is not a side effect; however, an early morning flight may be distracting. Full attention to instrument scan and the task at hand may be compromised by the four-hour half-life of sildenafil. Metabolism of sildenafil by the liver further decreases by 40% at age 65.

For the above reasons, "six hours from Viagra to throttle" is recommended.

Dr. Borrillo is the Commander, Flight Medicine, at Wright-Patterson Air Force Base, OH. His article appeared in the fall 1998 issue of The Federal Air Surgeon's Medical Bulletin.

The views expressed in this article are those of the author and do not necessarily represent the official policy of the Federal Aviation Administration Office of Aviation Medicine.

"KNOWLEDGE + PROFESSIONALISM = SAFETY"

by Phyllis Anne Duncan

Delta Air Lines Photo

Delta Maintenance Facility at Tampa, FL, (Hangar, Line, and QA) has had 100% Aviation Maintenance Technician Award Program participation for 1998. An awards ceremony was held at the Tampa hangar October 8, 1998, to make the maintenance people aware of this accomplishment and to award 29 Diamond level certificates and pins. All 38 members of the Tampa Maintenance Facility completed at least 100 hours of training in addition to completing college credits to be eligible for the AMT Diamond Award.

One Airline's Partnership with the FAA's AMT Award Program

In the corporate world vision is essential to the success of a company, and it is usually the responsibility of executive level management to communicate that vision to employees so that they understand the part they play in the company's achievement.

Aviation is a business with many facets, the private sector (passengers, i.e., customers), the aviation industry itself, and the public sector (the regulators, i.e., the FAA). Each of those facets has a vision: The passenger wants cheap fares and a safe trip; the industry wants to make a profit and a safe trip; and the FAA wants compliance with the regulations and a safe trip.

Given that a safe trip is the shared vision of the multi-faceted aviation business, it is most often the individual's commitment to excellence that spells success. Again, in the aviation business, it is the safety contributions of individuals, perhaps more so than a system, that accomplish that "safe trip."

One group of individuals key to the successful business of aviation is the aviation maintenance technician, without whose dedication, skill, and professionalism, the world may be grounded. What good are airplanes without pilots, some may ask. But what good are airplanes and pilots without the people who keep the airplanes airworthy on a continuing basis.

Individual companies have employee recognition programs. Even we in the FAA have one where our peers nominate their fellow workers for awards. The FAA also has awards programs for recognizing the accomplishments of individuals to the success of aviation, but there are two programs in particular which encourage the enhancement of an airman's knowledge and skill.

One is well-established and familiar; the other is new and growing. The former is the Pilot Proficiency Awards Program (WINGS), and the other is the subject of this article, the Aviation Maintenance Technician (AMT) Awards Program. Over the next few pages we will show how one of the country's major airlines has taken the FAA's AMT

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Awards Program into the corporate structure to augment the vision of that company.

First, let's present an overview of the program itself.

The AMT Awards Program

The AMT Awards Program encourages mechanics and repairmen to participate in initial and recurrent training, either individually or as part of their employer's training requirements. Because while they are in training, these employees are "lost" to the employer, FAA also recognizes the employer for supporting the AMT Awards program. For specific details on the program obtain the free advisory circular (AC) 65-25A, Aviation Maintenance Technician Awards Program, from U.S. DOT, Subsequent Distribution Office, Ardmore East Business Center, 3341 Q 75th Avenue, Landover, MD 20785

At Delta's Atlanta maintenance facility, an AMT applies his knowledge, skill, and professionalism to some wing work. (Margaret Haldane photo)

There are five phases of the award structure:

Phase I	Bronze
Phase II	Silver
Phase III	Gold
Phase IV	Ruby
Phase V	Diamond

To be eligible to participate an individual must be an FAA-certificated mechanic or repairman in general aviation or air carrier, working on FAA type-certificated, U.S.-registered aircraft. A student in a FAR Part 147 school who maintains a C average or better is also eligible but only if they receive training outside of their normal course schedule. FAR Part 147 instructors are eligible for instruction given outside of their school duties. Non-certificated mechanics and technicians (e.g., an avionics, instrument, or propeller technician) who are employed full-time repairing aircraft or component parts for FAR Part 121, 135, and 145 operators are eligible as well.

For an organization to be eligible, it must be involved full-time in maintaining or repairing aircraft or their component parts, or it must manage a FAR Part 147 school; and it must employ at least three full-time technicians.

For the individual's Bronze award the individual must have received six hours of training the calendar year from October 1 to September 30. Of that six hours, two must be training in FAA regulations and policy, and four must be aviation maintenance training.

Twelve hours of training in a calendar year are required for the Silver individual award. The two-hour FAA regulations and policy requirement is the same, but the "hands-on" training is upped to 10 hours.

The Gold award requires 26 hours of training; again two hours on regs and policy plus three days or 24 hours of maintenance training.

As individuals move past the Gold award, they and their companies are making a significant commitment in time toward the employee's training. The Ruby award has a requirement of 60 hours: two on regs and policy and 10 days or 58 hours of maintenance training. In lieu of the 58 hours, the individual can teach 15 hours of aviation maintenance courses related to aircraft systems.

Finally, the pinnacle of this program is the Diamond award—100 hours of training. Again the ubiquitous two hours on regs and policy; completion of a college level course of three credit hours or 40 classroom hours in math, English, science, management, or related courses; and 10 days or 58 hours of aviation maintenance training. (The 15 hours of teaching in lieu of the 58 hours also applies here.)

An employer receives a Bronze award if 5% of employees participate in the program; 10% for Silver; 15% for Gold; 20% for Ruby; and 25% for Diamond. If an air carrier has 50% of eligible employees complete the program, its home office receives a special recognition award from FAA headquarters.

With this award program, you don't necessarily have to start with the Bronze and work your way up—you can go straight for the Diamond! You could collect all five, then start all over again, or go for a record number of Diamonds in a row. Many technicians who have participated in the program since its inception have earned two-year associate degrees or a full four-year Bachelors. Those added degrees can increase the Benjamins in your wallet, another incentive for program participation.

One Airline's Story

Government agencies are not allowed to promote themselves, and even if a program like the AMT Awards enhances safety, there can be no media "splash" to announce it. Like its

predecessor, the WINGS Program, the AMT Awards Program started slowly, its popularity spreading by word of mouth.

Agencies can't promote themselves or their programs, but individual employees can dedicate personal time and effort in that area. Phil Randall, Airworthiness Safety Program Manager for the Winston-Salem, NC FAA Flight Standards District Office (FSDO), as we've written of before, gave the AMT Awards program a kick-start a few years ago by enlisting NASCAR as a sponsor. The names of all individuals earning the various phases of the AMT Awards go into a very large hat, and winners are selected to receive incredible prizes, usually related to a NASCAR race or driver. (Okay, this is where the FAA lawyers insist that I say that the FAA has no part in accepting or holding prizes for the winners.) Since the contest started four years ago, the number of AMT Awards issued annually has gone from a few hundred to some 20,000 in 1998.

NASCAR support was fine, but Randall sought a more aviation oriented supporter, and since he is located in FAA's Southern Region, he had at his back door, one of the country's "Big 10" airlines, Delta.

Because the oversight of Delta's operations falls within the purview of the FAA's Delta Certificate Management Office (CMO) in Atlanta, GA, Randall began his pitch to the CMO Manager, Lane Chandler. Chandler, a 22-year FAA employee and manager of the CMO for the past five years, and formerly Delta's principal operations inspector, listened to Randall's proposal and believed it was "the truest sense of partnership that we have been trying to foster with Delta." Because the Aviation Safety Program, of which the AMT Awards Program is a part, is not a traditional program of a CMO, Chandler felt that the AMT Awards program "would add a new dimension to the CMO's duties" if Delta agreed to Randall's proposal, but, he indicated, he was "very open to the program if it provides incentive for Delta to go further in developing our partnership."

The CMO's supervisory Principal Maintenance Inspector Barry Basse emphasized that the FAA had always had a partnership with the executive levels of Delta but saw the AMT Awards Program as a way to "foster partnership down in the ranks, on the hangar floor."

This sentiment is echoed by Clay Hightower, an FAA avionics inspector in the CMO and now the program manager for the AMT Awards Program in the CMO. "FAA has very little contact with workers on the hangar floor," he said. "There is an FAA liaison department at Delta that we work with most of the time, so the Aviation Maintenance Technician is insulated from the FAA. With the AMT Awards Pro-

(Margaret Haldane photo)

Row upon row of the familiar red, rolling tool boxes signify that Delta's base in Atlanta is a busy maintenance facility.

Delta Air Lines Photo

Delta's Ray Valeika on the Hangar floor.

Delta CMO Manager Lane Chandler (Margaret Haldane photo)

gram we can have better communications at the grass roots level."

Basse explained, "The presentation of the awards by FAA personnel directly to the recipient is a way for us to put a face to a name and make a positive contact. The industry sees us take advantage of an opportunity to congratulate them on a good job, not just to discuss a violation."

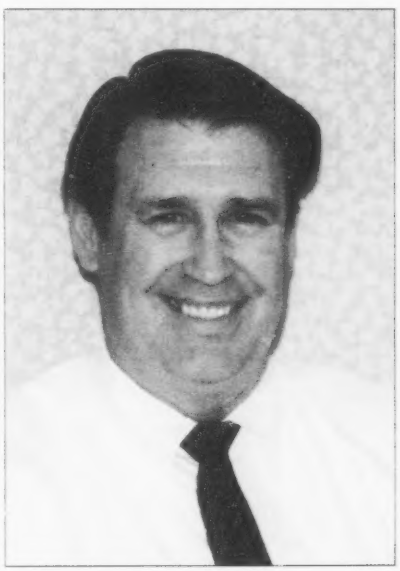
The fact remained, would Delta be interested? Hightower arranged for Chandler, Basse, and Randall to speak with Ray Valeika, Senior Vice President of Delta's Technical Operations Center in Atlanta, last spring to see if Delta would be interested in becoming a visible supporter of the AMT Awards program.

The response was a quick and enthusiastic yes—Delta would fully back participation in the FAA AMT Awards Program by all of its maintenance employees.

Meaning what?

Because employees already receive their training on Delta's time and not their own, knowledge and support of the AMT Awards Program would be promoted among the senior and mid-level executive, all the way down to the hangar and shop floor, and out to all the domestic and international maintenance bases. And Delta was certain it would be received enthusiastically by the maintenance personnel.

"NASCAR was a big draw," said Valeika during an interview last September, after three months of Delta's total commitment to the AMT Award Program. "After all, this is NASCAR heaven down here, but I was attracted to the prospect of getting behind the AMT Award Program for another reason.



Delta CMO Supervisory PMI Barry Basse (Margaret Haldane photo)

"One of the things I'm very concerned about is the perception, the feeling that the FAA is the cop, and we're somebody who is trying to get away with things. This is the public's way of looking at it, as sort of an adversarial relationship, a chasm between the FAA and the operators. In reality we both have the very same goals and objectives, and we're working towards the same end. We need more opportunities to show the partnership and the cooperation towards that goal. Everything that we're doing is totally for the same goal. Even the program's logo 'Knowledge plus professionalism equals safety.' That's what I'm preaching. That's what the FAA is preaching."

Valeika, an engineer by training, believes that any program that recognizes the contributions of maintenance technicians to the safety of flight is worth following. The training is a bonus. "Training," he said, "is at the heart of the technician's profession. It gives the public more confidence in us and encourages young people to look toward maintenance as a career and profession."

Delta employs some 7,500 mechanics across the nation and overseas. The goal is as high a participa-

tion as possible—preferably 100% across the board—and the company has set up a mild competition among its departments and maintenance bases to see who gets the highest percentage of participation.

So far, of those 7,500 maintenance employees, 4,239 have received some level of the awards. There have been 233 Bronze, 777 Silver, 1,126 Gold, 1,913 Ruby, and 190 Diamond Awards presented, usually jointly by FAA and Delta management. Some bases, such as Tampa, Portland, San Francisco, and La Guardia, have had 100% participation. Weekly, Delta sends out to all its maintenance facilities a spreadsheet comparing the facilities' participation against others, as a subtle reminder. For example, two months into the full-scale participation in the program, no employees from Europe had taken any training to qualify for the program. When the spreadsheet came out showing 0%, they quickly got up to speed and soon had 100% participation.

The depth of the airline's commitment to a highly trained workforce is evident when walking the halls of its headquarters in Atlanta, GA. AMT Award posters dot every bulletin board, workstation, and break room, and it's a subject of conversation among the employees: "I got my Ruby! Which one did you get!" Delta managers say camaraderie has improved and that internal communications among the departments is better.

Two recent recipients of a Ruby and Diamond Award sat down with me to discuss why they opted to participate in the AMT Awards Program.

Terry Gobes, a nine-year Delta employee who works in the landing gear department and recipient of a Ruby award, says he was sparked by the opportunity to take more training, and he said, he liked "the official attention from the presentation of the award."

"The training," said Perry Slaughter, a seven and one-half year veteran of the combustion chamber department and recipient of a Diamond award, "makes you think about what you're doing every day. It makes you want to go and build your skills, and I did it as an example to the other guys, so they would do it, too."

"When you can show certificates for all this training," added Gobes, "you're not just labeled as a 'grease monkey.'"

For Slaughter the Awards program gives him the feeling that "the FAA is working with us."

Gobes agreed: "We used to get scared of the FAA or intimidated. This program brings us to a whole different level, a better one. We get the recognition we deserve."

Managers of the various Delta maintenance departments are on the bandwagon as well, recognizing that a trained employee is a winner for the company, for the public, and for the FAA. Valeika's goal through participation in this program is for 100% of Delta maintenance employees to end up with associate or bachelors degrees.

In the words of FAA Inspector Clay Hightower, "It's a classic example of win/win."

No more apt description.

In concluding his interview with me, Ray Valeika issued a challenge to his competitors: "We're going to have the most highly trained maintenance workforce in the business through participation in the FAA AMT Awards Program. How about you?"

The AMT Awards Program Logo

Just as the FAA's WINGS program modeled its lapel pins on Naval aviator's wings, the logo of the AMT Award Program is something familiar to its recipients.

- The logo is a hexagon shape similar to standard AN hardware; that represents the strength in maintaining a common standards of integrity and trust.
- Two perfect, concentric circles within the hexagon symbolize the continuing cycle of maintenance and inspection which must remain unbroken and perfect today and every day.
- The slogan, "Knowledge + Professionalism = Safety," represents the commitment of the maintenance industry to maintaining the aircraft entrusted to its care; it is also the individual's commitment to safety.
- The two aircraft in the center—the 1903 Wright Flyer superimposed over a futuristic space plane—symbolizes the proud past and the bright future of the aviation maintenance industry.

When you earn this award, wear it with pride! If you see someone wearing an AMT Award lapel pin, congratulate him or her for professionalism and dedication to your safety.

How to Get the Service You Deserve

by H.Dean Chamberlain

The Small Print

Recently, the question was asked how could someone make sure he or she gets the best possible service from the Flight Standards Service. Since *Service* is part of our (Flight Standards Service) organizational title and that is what we all strive to provide, *FAA Aviation News* (we are part of the Flight Standards Service) decided to investigate the question.

Normally at this time, media organizations that have any type of relationship with the organization they are reporting on issue some type of disclaimer saying that no outside influence was exerted by the parent organization on the article, etc. Consider the disclaimer given. For the record, no exotic trips were promised or expected, nor were any unusual pay raises promised or expected for me writing this article. Darn! However, I will be permitted to continue commuting into our Nation's Capital to work. Yea!

Now that the small print has been explained, let's explore how anyone can get the best service from Flight Standards.

The Flight Standards Organization

For those who have spent years working within aviation, the following information may seem very simplistic, but if you are new to the business, the following broad overview of Flight Standards and what it does may help someone new to aviation get better service.

Flight Standards parallels its parent FAA in organizational structure. There is a Washington Headquarters organization that develops policy and approves those actions that require a "Headquarters" approval. Broadly speaking, the organization includes airworthiness, air carrier, and general aviation divisions in Washington, DC, and a regulatory support division and a civil aviation registry division in Oklahoma City, OK. These divisions provide policy guidance and operational support of the Flight Standards Service's primary responsibilities of regulating and certificating all of the various categories of airmen, the operational use of all categories of aircraft, and ensuring the continued airworthiness of those aircraft. Although there are other divisions supporting the Flight Standards mission, such as a training division and a division dealing with air carrier certification, the listed ones are the ones most airmen routinely come into contact with. In this article we are using the term "airman" to include the broadest definition for "person" as it is defined in FAR Part 1.

Continuing the organizational breakdown of Flight Standards, there are nine regional Flight Standards division offices. One is located in each of the nine FAA regional headquarters. Finally, down at the daily operating level, is the Flight Standards District Office (FSDO). The FSDO is the Flight Standards Service's primary office for doing business with those involved in aviation. A FSDO's only limitation is that its responsibilities are limited to those activities located within the FSDO's respective geographical boundaries.

Scope of Article

Since the large aviation organizations and businesses know the organizational structure of the FAA and the specific FAA organizations they need to work with, we are going to further restrict our service inquiry to show those who may not normally work with Flight Standards how to get the best service possible.

First, let's acknowledge that the average general aviation pilot or aviation maintenance technician may seldom visit their local FSDO or work with an FAA aviation safety inspector (ASI). In fact, it is possible for many general aviation pilots in a lifetime of flying to never see an FAA aviation safety inspector.

Other reasons for someone to visit their local FSDO is to arrange a practical test or "check ride" such as the initial certificated flight instructor check which is a required FAA practical test with an FAA safety inspector. (Note: Most pilot check rides given today are done by designated pilot examiners. The same is true of some of the other certificates issued by the FAA such as the parachute rigger certificate or an airframe or powerplant mechanic certificate.) Non-commercial airmen may also visit their FSDO to arrange a local air show, to get their homebuilt aircraft certificated, to check on some safety issue or question, or in some cases, to respond to a question for an interview with an FAA aviation safety inspector after an accident or incident.

Service Secrets

So, how do you get the best service at your local FSDO?

The first and most important step is to be prepared. If your visit involves some type of certificate action, you can make sure all of the required forms are properly filled out and have any required signatures. In many cases, a telephone call to the FSDO several days in advance of your planned visit will confirm what material you might need to bring with you.

Another item that will make your visit more productive is to review the appropriate regulation or regulations that deal with your subject matter. If you don't have access to the printed regulations, but you have a computer with internet access, you can find all of the regulations on the 'Net under FAA or the Federal Government's *Fedworld* web site. The FAA web site address is www.faa.gov/ avr/afshome.htm. The Fedworld web site address is www.fedworld.gov. (See article on Page 1.)

Included on the Internet are the various FAA handbooks that contain detailed information on how Flight Standards processes the work flow of

every thing for which Flight Standards is responsible. The benefit of reviewing the appropriate Flight Standards handbook, air carrier, general aviation, and airworthiness are the major ones, is that you will know exactly what is required and how the FAA will process your request.

Another key to ensuring good service at any FSDO is to have an idea of what you want to accomplish. If possible, review the appropriate regulation or handbook section to familiarize yourself with any required documents or paperwork. If your question involves anything dealing with certification, you will need a valid photographic form of identification as outlined in the regulations such as a driver's license, passport, or military identification card. If you are applying for a certificate such as an airline transport pilot certificate or one of the maintenance certificates, you should make sure you meet all of the training and experience requirements listed in FAR Part 61, Certification: Pilots, flight instructors, and ground instructors, or in FAR Part 65, Certification: Airmen other than flight crewmembers. If you don't, the FAA aviation safety inspector will.

How to Handle Disputes

Since the vast majority of the Flight Standards' work is done at the FSDO level, your local FSDO is most people's one-stop shopping center for dealing with FAA. In case of any dissatisfaction with the services provided by a FSDO, aviation safety inspector, or other employee, a person should ask to speak with that person's supervisor or in extreme cases with the office manager. If you are not satisfied with the FSDO office manager's resolution of your problem, then you should contact the regional Flight Standards division manager. If you are still not happy, you can always contact the Director of the Flight Standards Service in Washington, L. Nick Lacey. To complete the Flight Standards "chain of command" the next step up the organizational ladder is the Associate Administrator for Regulation and Certification Thomas E. McSweeny. At the top of the ladder is the FAA Administrator Jane F. Garvey.

If you are still not satisfied with the service provided by the FAA after working your way through the organizational structure at FAA, as with any government agency, you can always contact your elected representatives who foster your interests here in Washington.

Rules and Rulemaking

If you are unhappy with an FAA rule, you can review FAR Part 11, General rulemaking procedures, which outlines how rules are made, changed, amended, or how exemptions are requested from specific rules.

Strictly Local

A few people have written *FAA Aviation News* in the past with questions for the FORUM editor (me) concerning strictly local issues that should have been directed to the local FSDO. (The FORUM EDITOR LOVES NATIONAL FORUM ISSUES.) In some cases, the writer didn't like the answer provided by the FSDO so the person tried to get a "Washington" answer on the subject. This technique doesn't work. Our normal procedure for dealing with "local" issues is to coordinate our answer with the appropriate FSDO because the FSDO is responsible for all actions within its area of responsibility. In this case, the person received a slower answer than if the person had worked directly with his or her local FSDO. The answer was delayed because of the need to coordinate the answer with the responsible FSDO and its respective region.

When time is important in getting an FAA answer to an operational question, the following guidance is provided in the *FAA Aviation News'* Flight Forum section of the magazine: "Readers are reminded that questions dealing with immediate FAA operational issues should be referred to their local Flight Standards District Office or Air Traffic facility." Readers should not contact the magazine on time critical issues. Due to the number of questions submitted to the

A. Mario Toscano photo

Manager of the FAA's Washington, DC FSDO, Mr. George A. Galo

"From the FSDO perspective, we see our function as one of the most important in the FAA in that we are the front line and the direct contact between the agency and our customers, the citizens working for and working in the aviation industry. Each certificated airman, air carrier, and air agency have, in the course of normal business, been touched directly or indirectly by our Aviation Safety Inspectors.

"The FSDO team works closely with each operator and airman to assure the highest standards of aviation safety are maintained as prescribed in approved standards, regulations and policies.

"Activities are usually planned in advance but inspectors are available and ready to respond to industry needs when they arise and we encourage contact with our office at any time."

magazine and the limited number of answers printed each issue, it can be many months before a question and its answer are published.

Your local FSDO is where all time critical questions should be directed.

In those cases where the FSDO may not be sure of an answer, it is the FSDO's responsibility to coordinate its response with its regional Flight Standards division. If the regional Flight Standards management can't answer the question, the region will then forward the issue to Washington for an answer. Washington will then coordinate its answer down the organizational chain to the originating field office. Although this may take some extra time, it is done to ensure our Flight Standards "customers" are given the best possible service.

Quick Review

A quick review of some tips to help anyone get the best possible service at his or her local FSDO is for that person to review the requirements for whatever he or she wants to do. If in doubt, call the FSDO in advance for the information. Do your homework and bring any and all required documentation. Make sure all required signatures are signed off. And please don't forget any required photographic identification. Then if possible, schedule an appointment. Although routine matters can often be completed by someone just walking into their local FSDO, making an appointment is best because then the FSDO employee best qualified to help you can be made available to help you.

Flight Standards Customer Survey

In its constant search to provide the best possible service, Flight Standards recently surveyed almost 240,000 airmen to get an idea of how the recipients feel about the service provided them. If you are one of those surveyed, please respond promptly. Your comments are appreciated and needed to ensure that Flight Standards continues to provided the type and kind of service you expect and deserve.For more information on how Flight Standards Service strives to provide its customers the best possible service, readers can review the Flight Standards Customer Service Home Page on the Internet at www.faa.gov/avr/afs/customer/customer.htm.

FAA's Deputy Director of Flight Standards and Former Acting Director, Mr. Richard O. Gordon

A. Mario Toscano photo

Gordon, right, explains to FAA Aviation News *Associate Editor Chamberlain how to get service from the Flight Standards Service.*

"Our FSDO's are open to the public during normal working hours Monday through Friday. Whether someone comes into a FSDO or telephones a FSDO with a request, if that request is not honored within a reasonable amount of time, that person needs to go to or contact the supervisor of the FAA person or inspector who has not honored that request. Now it is important to point out that some requests may take a day or two or even longer to handle depending upon its complexity. Obviously, a new start-up airline's request for certification will take longer than a pilot's question dealing with an additional rating or an aircraft owner asking about an airworthiness issue. Considering the many, many thousands of requests Flight Standards receives every day and the number of operations we oversee, I think we do a good job of honoring the public's requests. But, sometimes things happen, and a request is not handled promptly. That is when the requester should contact the next level of supervision in the FSDO.

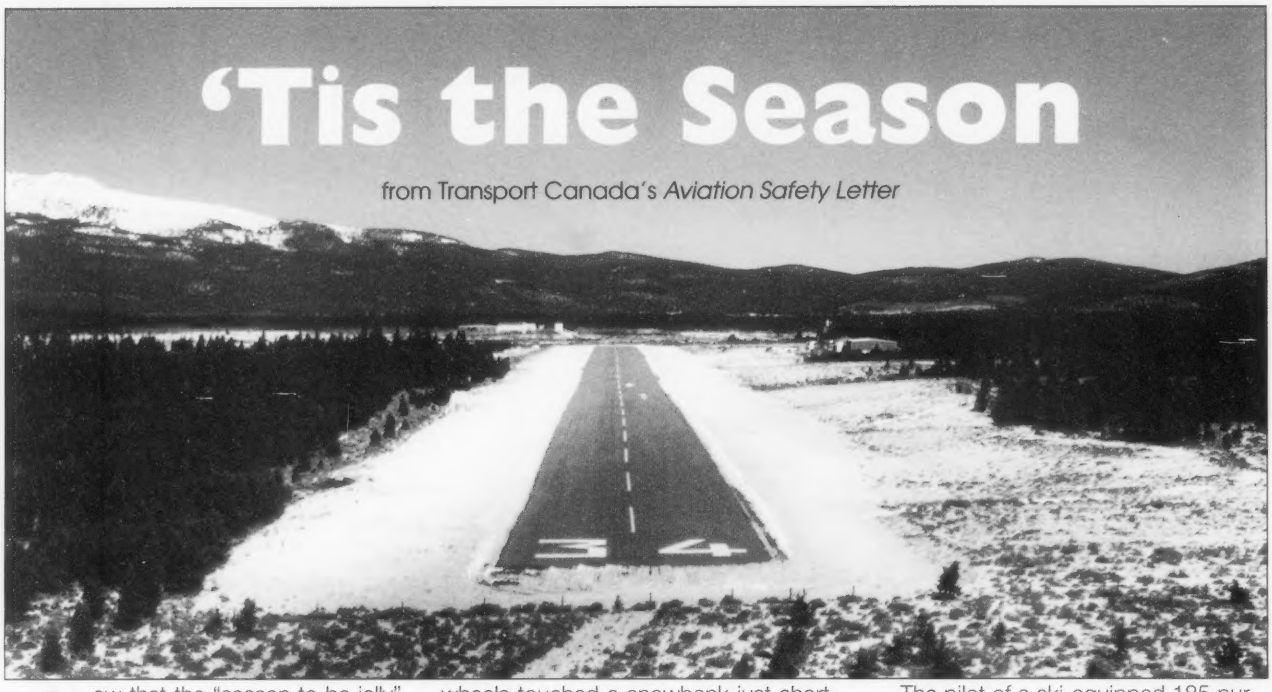
"If the supervisor can't solve the problem, then the requester should say, 'I'm not mad at you, but I have to talk to your manager.' If the office manager can't solve the problem, then, again, the person should say, 'I'm not mad at you, but I have to talk to your division manager.' This process should be used all the way to the Director of the Flight Standards Service, if necessary.

"Somewhere along that process, that person's needs are going to be met. But if the person contacts me directly here in Washington instead of starting at the FSDO level for help, then I must go back and talk to the first-line supervisor of the FAA employee involved, the next level supervisor, the FSDO manager, and the division manager before I can help solve the problem.

"Another problem with contacting me directly is that all of the people involved at the FSDO and division levels don't get to learn how to solve similar problems in the future. So it is very important that all requests are submitted at the FSDO level for prompt and efficient service. I think this is the best way to handle any request. So, I ask everyone to always submit his or her request for service at the lowest level possible and let Flight Standards provide the type of service we all can be proud of. "

'Tis the Season

from Transport Canada's *Aviation Safety Letter*



Now that the "season to be jolly" is behind us, pilots should still be extra vigilant during takeoff, landing, and ground operations. Here are a few brief examples of problems some pilots encountered during the winter season. Perhaps their experiences will help keep you out of trouble.

The experienced PA-23 pilot lined up with the center of the runway on approach—at least he thought that he did. The snow-covered unmarked runway was difficult to distinguish from the surrounding terrain and he landed beside it. The right wing struck a snowbank at high speed and the aircraft pivoted 180 degrees and ended up well bent.

Enroute, a low-time 172 driver decided to land to make a phone call. The airfield that he picked was only semi-snowcleared, and so he attempted a short field landing with an 8 knot tailwind. He didn't make it. On the rollout, the aircraft swung to the left, and right rudder didn't stop it. When the left wheel contacted snow at the edge of the runway, it dragged the aircraft around further. It slid sideways 400 feet through deep snow, damaging the mainframe and lower cowling. Then he had a few more telephone calls to make.

Another 172 pilot got too low on final in strong gusty winds. The mainwheels touched a snowbank just short of the threshold and the aircraft flipped onto its back. He hadn't made enough allowance for the gusts and hadn't seen the snowbank.

A 150 student was practicing solo for his night rating. On landing, the aircraft bounced. With the nose high, he lost track of the runway. The aircraft drifted left and, when it touched down again, the left wheel was in snow. This dragged it into a snowbank, where it nosed over inverted. Diversion of attention, even briefly, can lead to trouble.

A Bellanca pilot was done in by a patch of slush. After the landing, the left wheel hit the patch and the machine was dragged into a snowbank and badly damaged.

A PA-28 pilot was practicing "off airport procedures." The trouble was that the wind was outside the maximum crosswind limits on the runway that he elected to use. It was more favorable on other runways. He used 25 degrees of flap on approach and landing, then brought them up shortly after touchdown. As the aircraft decelerated, it weather-cocked into the snowbank along the side of the runway. Ignoring the "book" resulted in an unexpected "off airport" landing, a bent propeller, a damaged nose gear, a crumbled wing, and probably a sadder, but wiser, pilot.

The pilot of a ski-equipped 185 purposely planned to take off close to the edge of a snow-covered taxiway with center bare patches. Unfortunately, he was a little slow correcting for gyroscopic effect as he poured on the power. The left ski hit a snowbank and that was the end of the trip. The maneuvering safety margin had been cut too fine for recovery after a mistake.

An experienced senior commercial pilot with an instrument rating had difficulty seeing where he was going on takeoff. It had been snowing all day and the runway was covered with two inches of fresh snow. Visibility was down to less than a mile. Melting snow on the heated windshield added to his visibility problem, even though he got out of the aircraft just before takeoff to wipe it off. The runway lights were partially obscured by snow, and he had trouble making out the edges of the runway. He lined up with what he thought was the center and applied takeoff power. The aircraft went straight as an arrow at a slight angle before it ran off the runway some 600 feet along. The nose gear collapsed as it plowed through a snowbank. Two propellers were bent and the nose split open.

These are just a few reminders of winter hazards from other pilots' experiences. We don't want to write about you next year.

SURPLUS MILITARY HELICOPTERS AND PARTS

The FAA's Rotorcraft Certification Office in Fort Worth, Texas has clarified procedures concerning military surplus helicopters presented for certification under a restricted category certificate, as well as any military surplus parts for Type Certificated helicopters.

Helicopters and helicopter parts operated and/or maintained by foreign military organizations are not eligible for certification or installation on any U.S. Type Certificated rotorcraft.

U.S. military helicopters and parts given, sold, loaned, leased, or shipped directly to foreign military organizations (as part of a U.S. military assistance program or as part of a foreign military sale contract) are not eligible for certification in the U.S.

Without complete knowledge of the foreign military's operations usage and all aspects of the foreign military's quality system used to maintain the aircraft, as well as complete historical records, the FAA cannot ensure the appropriate level of airworthiness or determine that the aircraft or part is in a safe operating condition.

To further clarify ineligible U.S. military aircraft for U.S. Type Certification, the FAA is compiling a list of helicopter serial numbers that are known to have been delivered to foreign military organizations. The ineligible list will be published in the near future.

IMPROPER PROPELLER REPAIRS

Aircraft owners who have had propellers overhauled or repaired by Southern California Propeller Service of Inglewood, CA are alerted that the propellers may be unairworthy. Southern California Propeller Service held an FAA certified Repair Station rating for Class 1 and limited ratings for Hartzell and McCauley propellers, but the FAA has revoked that Repair Station Certificate.

The areas that may be defective on Hartzell Model HC-83V20-2 propellers (though similar problems may exist on other makes and models) overhauled or repaired at the former repair station include:

- Areas requiring plating may only be painted. It is acceptable to paint over plating.
- Attachment bolts for external counterweights should be inspected for multiple holes. All hardware is required to be replaced at overhaul. More than one hole may indicate prior service.
- Possible improper "shot peening" of the outer radius of each blade. Some propeller blades were sanded smooth or not properly "peened" in the outer areas. The size of the "peening" media was incorrect and may be detected by the course texture of the "peened" surface. The "peened" surface should be uniform in the coverage area.

Any questionable items concerning these conditions should be investigated and evaluated by a qualified and appropriately rated propeller repair station.

DEFECTIVE ENGINE EXHAUST SYSTEM MUFFLER

A recent accident resulting in two fatalities shows the importance of a pre-winter check of an aircraft's exhaust system. The pilot of the aircraft had a blood carbon monoxide level of 26%, and the passenger's was 13.2%.

The aircraft, a PA-28, had undergone an annual inspection two months before the accident, which occurred after 13 operating hours since the inspection.

The accident investigation revealed that advanced corrosion, requiring correction, of the engine muffler system was not detected by maintenance personnel at the time of the annual inspection. Maintenance records indicated that the muffler had been in service for 1,198 hours. Piper maintenance manuals contain explicit instructions on how and when to inspect the muffler.

The instructions contain a compliance time of every 100-hours time in service and include a pressure test. Investigators deemed it highly unlikely that the muffler was in serviceable condition during the annual inspection then could exhibit advanced corrosion only 13 operating hours later.

Fortunately, cases such as this are rare; however, all maintenance technicians and aircraft owners should be aware of the potential for such an occurrence.

We can't stress too highly compliance with the manufacturer's maintenance data. As well as owners or pilots who assume responsibility for the safe operation of the aircraft in flight, maintenance technicians assume an awesome responsibility for the lives of their customers, which depend on the knowledge, skill, ability, and thoroughness of maintenance technicians. Complacency and a "hurry-up" mentality are the worst enemies of maintenance personnel. We must recognize and avoid these problems.

Reprinted from FAA's Aviation Maintenance Alerts, No. 243, October 1998.

• Wheels Down

Regarding your March 1998 issue of *FAA Aviation News* article on Checklist Failure, I have recently overheard pilots on final giving the following message to the tower: "YV...., on final, three greens." Upon questioning I was told that Venezuelan ATC has recommended to pilots to mention the three greens if their gear is down. This has helped avoiding wheels up landings of which there were a few. This is not obligatory but many pilots do it. It does occupy some small space in the radio traffic but it is a reminder to pilots.

Hans J.Mueller
Civil Aviation Adviser
American Embassy
Caracas, Venezuela

Thanks for your comment. You're right, the reminder would take up radio time at very busy airports, but at most airports the time would be minimal. I have been at military airfields where the tower routinely reminds pilots to check wheels down. I have also seen signs near the approach ends of military runways asking if the wheels were down. (Wheels Down). Maybe this might be something ATC could add to the ATIS information. An example might be "Remember to check wheels down on final."

• Mandates Not Education

While one can only applaud the FAA's intention to strive for Safer Skies, detailed in the July/August 1998 issue of *FAA Aviation News*, it is almost tragic to believe that education will help promote cabin safety.

With a few airlines instituting requirements for mandatory use of seat belts and reduced carry-on baggage, I would think the FAA would be better served supporting these efforts by rule making that requires mandatory seat belt use and reduced carryon baggage. It would be a wonderful world if we could depend on education changing people's attitudes, but unfortunately that time may have passed. Most people feel that when the seat belt sign goes off it is time to visit and go for short walks. And some of the carry-on luggage can barely fit in a seat, let alone the overhead or under the seat. Airlines run the risk of adopting rules on seat belts and carry-ons that drive their customers to other airlines. An FAA regulation would level the playing field and insure safer flights.

Raymond D. Dunn Jr.
BDR AFSS

Thanks for your comments. I personally would be happy to see the overhead storage bins taken out of airplanes because I am tired of getting to my seat, say in row 20 and finding the overhead bins above my seat already filled with stuff from people sitting in row 99. I can live with only the storage space under a seat. Plus, I then I don't run the risk of getting hit in the head as someone tries to remove all of their worldly possessions from the overhead bin above my seat. So much for my personal comments. Fortunately I don't make FAA policy.

The latest FAA policy on this subject was released in the following FAA news release dated July 22, 1998, titled FAA Issues Guidance on Carry-On Baggage. "As part of its Safer Skies safety agenda, the Federal Aviation Administration (FAA) provided expanded guidance for passengers and airlines on carry-on baggage regulations.

Major changes in the new Advisory Circular (AC) cover recommendations to airlines that their individual carry-on baggage programs contain descriptions of carry-on baggage, including the size and number of bags, how child safety seats should be treated, and the procedures for ensuring proper stowage.

"In April, FAA Administrator Jane Garvey made cabin safety a major part of the agency's safety agenda. 'Safety is our highest priority,' said Administrator Garvey. 'This carry-on baggage AC will make it easier for airlines to establish requirements that will be clear to both passengers and crew. But the best rule for maintaining cabin safety is the rule of common sense - keep your seat belt fastened to protect yourself against turbulence, make sure infants travel in safety seats, and listen

FAA AVIATION NEWS welcomes comments. We may edit letters for style and/or length. If we have more than one letter on the same topic, we will select one representative letter to publish. Because of our publishing schedules, responses may not appear for several issues. We do not print anonymous letters, but we do withhold names or send personal replies upon request. Readers are reminded that questions dealing with immediate FAA operational issues should be referred to their local Flight Standards District Office or Air Traffic facility. Send letters to FORUM Editor, FAA AVIATION NEWS, AFS-805, 800 Independence Ave., SW, Washington, DC 20591, or FAX them to (202) 267-9463; e-mail address:
Dean.Chamberlain@faa.dot.gov

to crewmembers.'

"The FAA requires air carriers to develop and enforce carry-on baggage programs, which may vary by aircraft type and by airline. The new AC contains recommendations as to how an airline could comply. However, an airline can develop its own compliance program, including setting the number and size of carry-on baggage. All carry-on baggage programs must be approved by the FAA. During routine inspections, the FAA then ensures procedures are being followed.

"Under the new guidance, the airline's FAA-approved, carry-on-baggage program should describe what constitutes carry-on baggage, including the individual carrier's limitations on the size and number of bags permitted per passenger. The AC also addresses child restraint devices, stating that the carry-on-baggage program should discuss the use and handling of such devices.

"The carry-on baggage program also should be designed to ensure that the approved weight and balance program for the aircraft is not compromised. In order to maintain clear passage to the aisle, the AC recommends that the proper under-seat stowage be limited to bags that do not protrude beyond the fully upright seat back. Proper stowage in the overhead bin means that the baggage should be able to fit in without forcing the bin doors closed. The operator's carry-on baggage program should minimize or eliminate the chances of articles falling out when bin doors are opened.

The AC also recommends designating a crewmember to verify that each piece of carry-on baggage has been properly stowed, including closing the overhead bins, before the aircraft doors are shut.

"Operators should also have procedures for informing passengers and travel agents about specific carry-on baggage requirements for each flight as well as what cannot be carried in carry-on baggage, such as hazardous materials."

• Phantom Threshold Point?

In this day of electronic wizardy, wouldn't it be possible to have the localizer DME have a "minus" factor built into its transmitter circuitry so that the pilot's DME would ideally read out to a "phantom" threshold point, thus making it unnecessary to subtract distance from threshold to DME transmitter. Slant range error is probably negligible, and we certainly do not need unnecessary arithmetic on the glide slope.

Milton Pashcow
Wantagh, NY

You have asked a good question. Although technically feasible, if a "minus" correction factor were to be built into the DME for use on the ILS, then the DME would read incorrect for other purposes and readouts. Sorry.

• 100-Hour Inspection

If a private individual owns an airplane and is receiving flight instruction in it (the CFI is getting paid), is that aircraft subject to the 100-hour inspection rules?

Gregory Drezdzon
via Internet

The answer is a 100-hour inspection is NOT required as long as the owner of the airplane is the person receiving the instruction. The flight instructor can be paid while giving instruction to the owner of the aircraft. FAR § 91.409(b) applies. Since the aircraft is being provided by a private individual for that person's own benefit and not by the flight instructor, no 100-hour inspection is required.

• FAA Forum 337

Could you clear up a question in which the manufacturer of a Supplemental Type Certificate (STC) part and the local Flight Standards District Office (FSDO) disagree?

Here is the situation: We bought four sets of Rosen Sunshields to install in our flying club Cessnas. They are STC'd for each of our planes. Thousands of these have been installed in over 70 models of general aviation aircraft. We were told by the manufacturer they had been assured by their local FAA office that only a log book entry signed by an A&P was required after installation for what was essentially a minor modification.

However, at least one person at our local FSDO disagrees and says because these replacement sunshields are STC'd, an FAA Form 337 for a major change is required. Another airworthiness inspector at the same FSDO disagreed after reading me the applicable FARS over the phone.

What is the FAA official position on this question?

Dee Whittington
Richmond, VA

You will need an FAA Form 337 completed and signed off for the Rosen Sunshields installation. The reason is the Sunshields have been issued a Supplemental Type Certificate (STC) as a major design change to the aircraft's Type Certificate (TC). Since the STC is a change to the aircraft's TC, it is by definition considered a major alteration and requires an FAA Form 337. Since the STC is a change to the aircraft Type Certificate, the completed FAA Form 337 is forwarded by the local Flight Standards District Office to the Aircraft Registry in Oklahoma City for use in updating the aircraft's airworthiness records.

I hope this answers your question. I suggest you contact your local FSDO if you have any more questions. We suggest anytime you have a difference of opinion regarding an answer from someone at your local FDSO that you contact the office's manager to resolve the issue. See our article in this issue on page 19.

AVNEWS

Former Air Force Officer Named Flight Standards Director

On November 23 FAA Administrator Jane F. Garvey and Associate Administrator for Regulation and Certification Thomas E. McSweeny named L. Nick Lacey Director of the FAA's Flight Standards Service, the organization which sets the standards for airmen, airlines, and other commercial operators and assures continuing regulatory compliance and safety. Lacey will head an organization of some 4,500 aviation safety inspectors and other aviation professionals as well as set policy and standards for three-quarters of a million airmen.

Since 1996 Lacey has been president of Lacey Limited Liability, Inc., an aviation consulting firm for airlines, government agencies, financial institutions, and defense contractors. In his capacity as president he provided airlines and other operators with advice on meeting federal safety regulations, improving services, and other assistance. From 1994 to 1996, he was vice president-operations for Tower Air, Inc. From 1992 to 1994 he was the program manager of the USAF's Civil Reserve Air Fleet, a program where the military leases civilian aircraft for troop transportation.

From 1986 to 1992, Lacey held various positions in the USAF, including chief of the Department of Defense's Air Carrier Survey-Analysis Division, where he implemented a Congressionally mandated program to establish safety and quality standards for airlines authorized to carry military personnel and cargo.

A resident of Annapolis, MD, Lacey has a Bachelor of Science degree in economics from Wagner College, Staten Island, NY, and a Master's degree in business administration from the University of Puget Sound, Tacoma, WA. He has attended aviation classes at various military institutions and is an airline transport pilot with approximately 6,300 PIC hours. He is rated in several military aircraft, and military versions of LearJets, Gulfstream III, and Beech KingAirs. Lacey was a USAF approved examiner as well as a flight and simulator instructor.

He reported to his new position as Director, Flight Standards Service, on January 4.

Also named to FAA positions on November 23 were Elizabeth Erickson as Director of the Aircraft Certification Service, a post vacated by McSweeny when he became Associate Administrator for Regulation and Certification, and William S. Davis as Deputy Associate Administrator of Civil Aviation Security.

Vertical Flight Reference Chart

The IFR Gulf of Mexico Vertical Flight Reference Chart has been developed with the cooperation of the Helicopter Safety Advisory Conference (HSAC), the FAA's Houston Air Route Traffic Control Center and local FAA arrival/departure facilities. The chart depicts an IFR GPS waypoint grid system that will allow for more direct routing to and from offshore platforms, and by design, incorporate separation criteria that will reduce controller work load and increase system capacity during poor weather working conditions. Arrival and departure procedures that will transition helicopters from their coastal bases into the IFR grid and from the IFR grid to the offshore platforms have been developed with HSAC.

The chart extends from the Gulf Coast south to 26°20' north and from Texas east to approximately 87°30' west, at a scale of 1:500,000. Oil lease block information, NAVAIDS, and airport data are also shown. One half is printed on one side and half on the other. Both folded and flat versions are available.

The first edition of this chart became effective October 8, 1998 and will be printed once a year. Any changes that occur during the life of this chart will be found in the Chart Bulletin Section of the South Central Airport Facility Directory. The chart is available from National Ocean Service chart agents or directly from NOS by subscription or individual order. Telephone orders with a credit card are taken on (800) 638-8972. The stock reference when ordering is IFRGM.

Mark Your Calendars for EAA AirVenture Oshkosh '99

The 47th annual edition of the world's largest recreation aviation event, EAA AirVenture Oshkosh '99, will be held July 29 through August 3 at Wittman Regional Airport.

Last year more than 12,000 airplanes flew in for the week-long event, and some 855,000 people were thrilled by the world's finest aerobatic acts as well as vintage, historical, and experimental aircraft. More than 500 educational forums, seminars, and workshops were also offered, and this year promises to top that success.

For further information call 1-800-564-6322 or log on to <www.airventure.org>.

Satellite-Based Flight Tests Successful Over the North Atlantic

An FAA 727 aircraft using signals from both U.S. and European satellite navigation networks recently performed successful flight tests during October at Iceland's Keflavik Airport.

The flight tests are the latest step toward developing a seamless, satellite-based navigation system worldwide. Previous tests demonstrating the potential benefits of the FAA's Wide Area Augmentation System (WAAS) were conducted last year in Mexico

and Italy.

"With each successive test we're moving closer toward establishing a safe and dependable satellite air navigation system throughout the world," said FAA Administrator Jane F. Garvey. "The technologies used in Iceland are part of the foundation for the future air traffic management system as envisioned by the FAA and the International Civil Aviation Organization."

The FAA 727 performed a series of Category I precision approaches to the runway at Keflavik Airport using onboard equipment that received signals from the FAA's National Satellite Test Bed (NSTB), which is a forerunner to WAAS, and the United Kingdom's (U.K.) Northern European Satellite Test Bed (NESTBed). An Iceland Civil Aviation Administration (ICAA) Beechcraft King Air 200 and a U.K. National Air Traffic Services BAC 1-11 also performed Category I approaches using signals from both systems. Category I approaches are used primarily in bad weather where the pilot must see the runway at no less than 200 feet above the ground and at a distance of one-half mile.

The successful transmission and reception of signals from both networks is part of a continuing international effort to insure that future satellite-based navigation will allow for a seamless transfer from one network coverage area to another. NSTB signals were broadcast from an Inmarsat III AOR-W satellite. NESTBed signals were broadcast from an Inmarsat III F5 satellite.

The FAA and the ICAA have been working together on satellite navigation for the last two years. The reference station used in today's flight tests was fielded by the ICAA as part of the NSTB network, and the ICAA has performed a variety of successful flight trials leading up to this event. NESTBed participation provided the opportunity to demonstrate the ability of the two networks to work together.

Part of the U.S. Aerobatic Team that competed in the 19th Biennial World Aerobatic Championships. Left to right (back row) Ellen Dean, Debby Rihn-Harvey, Diane Hakala, Kirby Chambliss, Matt Chapman, and Mike Goulian, (front row) Dave Martin, Sergai Boriak (trainer), and Phil Knight.

U.S. Pilots Win Medals at World Aerobatic Championships

U.S. aerobatic pilots won a number of silver and bronze medals at the 19th biennial World Aerobatic Championships in Trencin, Slovakia. Matt Chapman, Kirby Chambliss, and Mike Goulian received Silver medals in the Men's Team category. Diane Hakala, Debby Rihn-Havery, and Ellen Dean won Bronze medals in the Women's Team category. Hakala, the U.S. National Aerobatic Champion won a Gold medal for her Four-Minute Freestyle program. She also won an individual Women's Silver medal. Chapman won an individual Men's Bronze medal as did Chambliss for his Four-Minute Freestyle program.

France's Patrick Paris won the World Aerobatic Championship. Russia's Svetlana Kapanina won the Women's Aerobatic Championship for the second straight year. Team results were France, United States, and Switzerland in that order in the Men's competition. Women's Team results were Russia, France, and the United States.

FAA Accomplishes Milestone in Weather Observing Program

FAA has reached a major milestone in its automated weather observing program with the commissioning of the 350th Automated Surface Observing System (ASOS) -- three months ahead of schedule.

The ASOS monitors weather conditions at airports, including sky conditions, visibility and precipitation, and reports that information to pilots using computer-generated voice. The most

recently installed systems also provide the intensity of rain, snow, freezing rain and obstructions to visibility such as fog and haze.

Next summer, ASOS will be enhanced with an Automated Lightning Detection and Reporting System, which will provide thunderstorm and lightning information. ASOS works non-stop, updating observations every minute, every day of the year.

ASOS is a joint program with the National Weather Service, the Department of Defense, and the FAA. The 350th ASOS, at Everett, Wash., was originally scheduled to be commissioned in January 1999. Weather observations at Everett are now available 24 hours a day. Eventually, FAA-supported ASOS sites will total 569. The total ASOS program includes 900 systems.

ASOS plays an important role in forming the foundation of the nation's aviation weather support system. At airports with towers, it is an additional tool for gathering and assessing weather information. Equipped with upgrades and additional capabilities, ASOS will improve the decision making process, especially at sites without weather observers.

The ASOS Web page at http://www.faa.gov/asos/asos.htm provides the status of the automated observing program or current weather observations. The site contains the location, site identifier, radio frequency and telephone number of every commissioned automated observation system.

Veteran's Group Looking for Support

The Sampson Air Force Base Veterans Association is looking for support and men and women who trained at the original Naval training base, later Sampson Air Force Base and presently New York State Park, located on the shore of Seneca Lake, New York.

Chip Phillips, Acting Executive Secretary, reports that the Association was formed in 1994 to preserve the memories and tell the story of the former World War II Naval base, Korean War Air Force Base, Veterans Administration hospital, and now state park.

A museum has been established in the old base's stockade to help preserve the memories of the former military base.

For more details on the Association, its history and reunions, readers can contact Mr. Phillips at (716) 633-1119. His FAX number is (716) 633-9118. His email address is <chip34@aol.com>.

CALENDAR OF EVENTS

February 26 - 27, 1999 - Aviation Maintenance Technicians and Pilots Symposium at Sequoia Conference Center, Buena Park, CA. The event will include vendor and product displays, industry and FAA speakers, and IA renewals. For information, contact the Long Beach (562-421-7655), Los Angeles (310-215-2150 x154), Riverside (909-276-6701 x37), San Diego (619-557-5281 x245), or Van Nuys (818-904-6291 x246) Flight Standards District Office.

March 12 - 13, 1999 - 3rd Annual Greater Southwest Aviation Technician Symposium at Williams Gateway Airport, Chandler-Gilbert Community College Aviation Center, Mesa, Arizona; IA renewals; WINGS Program; vendor and product displays; industry and FAA speakers. Pre-registration begins in January. For further information, contact Bashir Khalil at (602) 988-8112; (602) 988-8129 (FAX).

SUP SEMINARS - Seminars on FAA policy on suspected unapproved parts (SUP) will be held throughout the year and are open to the aviation industry. The cost of the one-day, eight-hour seminar is $60, and the seminar may be used for the Inspection Authorization (IA) renewal training requirement. To attend, contact (405) 954-0138.

Seminar Topics:

1. Intro to SUP policy
2. What is an approved/unapproved part?
3. How can approved parts be produced?
4. What is a suspected unapproved part?
5. How is a SUP reported?
6. How do you determine the status of parts?
7. What is the procurement process?
8. How do you use the Internet and FedWorld to find a list of SUP?

Seminar Dates and Locations

March 3 and 4 - Cincinnati, OH (two seminars, same subjects)
March 17 - Jackson, MS
April 14 and 15 - Albany, NY (two seminars, same subjects)
April 28 and 29 - Scottsdale, AZ (two seminars, same subjects)
May 12 and 13 - Ft. Lauderdale, FL (two seminars, same subjects)
June 9 and 10 - Helena, MT (two seminars, same subjects)
June 23 and 24 - Minneapolis, MN (two seminars, same subjects)
July 14 - Portland, ME
August 11 and 12 - San Diego, CA (two seminars, same subjects)
August 25 and 26 - Denver, CO (two seminars, same subjects)
September 15 and 16 - Little Rock, AR (two seminars, same subjects)

Editor's Runway

from the pen of Phyllis-Anne Duncan

The Successful Outcome

Time for some philosophizing since this is the January/February issue, encompassing the time when we make our new year's resolutions and look toward the future and since everyone is so hooked on the upcoming new millennium, which, by the way, I firmly believe doesn't start until 01-01-01, but I seem to be in the minority. So, I'll have a quiet celebration in '01 rather than '00.

One of our FAA inspectors here in the "hallowed halls of headquarters"--alliterative, even--handed me something the other day and said, "You might be interested in this." As I read it over, I decided Mr. Lauren D. Basham, one of our highly experienced inspectors, had words more meaningful for this month's "Runway" than I did--even though they were written 29 years ago when he was the Accident Prevention Specialist in the Helena, Montana, General Aviation District Office. Have a read and see what you think.

"Someone once said, 'Look to the future. That's where you'll spend the rest of your life.' How significant this statement is. How important it really is for each of us to consider what lies ahead, what new experience is 'just around the corner' to cope with.

"In this dynamic industry in which we find ourselves, we can readily predict much of the experience that is in store for us 'just around the corner.' We can also prepare in advance to meet this eventuality with insight, confidence, and most of all, with the knowledge that we can handle whatever it is. So maybe some day we do have an engine malfunction—through training, practice, and experience the successful outcome of this minor problem is predictable.

"Radio problems? No sweat—through training and knowledge of procedures the successful outcome of this minor problem is predictable.

"Gear malfunction? Though training and knowledge of emergency extension procedures the successful outcome of this minor event is predictable.

"Unforecast inclement weather? Through training, knowledge, and proper preflight planning the successful outcome of this minor irritation is easily predictable.

"Come what may—rain, snow, sleet, wind, engine, radio, gear, etc.—our best insurance for a successful outcome is thorough initial training and then recurrent training, new knowledge, review, practice, and a complete understanding or ourselves and the complexity of the systems we use. Complacency, overconfidence, lack of knowledge, or 'I don't give a d**m attitude' predict damage, injury, and worst of all—widows! [Remember, I said 29 years ago.—ED]

"Now, what this all adds up to is this, if you take this advice, I'll predict something for you. If you'll take just a couple of hours of your time to visit and fly with your favorite flight instructor and take his advice regarding your need for additional training and practice. If you learn your aircraft limitations as well as your own and then promise yourself and your loved ones you will operate within these limitations, I predict that you can become what all pilots long to become—an OLD pilot.

"The future, starting today, is the time for you to become a 'Pro.' 'Pro' is short for proficiency. No matter what type of certificate you now hold, you can only benefit from recurrent training. You'll make your insurance company happy, too.

"Drop me a card letting me know that you are working to become a Pro. I would appreciate it."

Because this is 29 years later, you don't have to drop us a card. Send us an e-mail at phyllis.duncan@faa.gov . Our thanks to Mr. Basham for wisdom good three decades ago and today.

'Til next time…

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